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Bahraia Dia0.650	Israel NS3.50	S.Arabia Ris7.00
Belglum 8Fr48	haly L1700	Simusore 554 10
Canada CS1 00	Japan	Spein Pta145
Cypnus	Jordan Fils 500	Sri Lanta Rup30
Denmark . DKr10.00	Kuwait Fils.500	Sweden 5kr9 00
E9751	Lebanos _ SI 125 00	Switz SFr2.30
Finland Fast7.00	Lun LFr48	Tahman NTS85
France FFr6.50	Malaysia Rm4.25	Taalland Bht50
Germany, DM2.30	Mexico Pes300	Tanisla Die0.800
Greece	Maracca Obb.00	Turkes
Hong Kong HKS12	fleth	UAE
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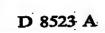
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**EUROPE'S BUSINESS NEWSPAPER** 

# FINANCIAL TIN

No.30,630

Thursday September 1 1988



#### UK faces demand for full statement on IRA deaths BusilesseSummary Six Japanese

#### By Michael Cassell in London and Our Belfast Correspondent

THE UK Government yesterday came under mount-ing pressure to disclose the full circumstances surrounding the shooting on Tuesday of three IRA men in Northern Ireland by security forces. yesterday came under mount-ing pressure to disclose the full circumstances surrounding the shooting on Tuesday of three IRA men in Northern Ireland

by security forces. Demends for an investiga-tion into the deaths - near Omagh in an area close to the omagn in an area close to the site where eight British sol-diers were killed by an IRA bomb last month - came from Dublin, from nationalist politi-cians in the province and from Westminster. In particular, Mr Tom King,

without trial. Britain's Northern Ireland Sec-The men were travelling

along the Omagh to Carrick-more road where their hijacked car was ambushed. The vehicle was riddled with bullets and

was riddled with bullets and the men died instantly. It is being widely eccepted that the latest uodercover operation was co-ordinated by the SAS, Britain's undercover, special operations force. But given the sensitive nature of covert security operations in Ulster the British Government is not expected to accede to any demands for a disclosure of events surrounding the of events surrounding the

shootings. As calls for a statement

grew, West German border guards yesterday mede e potentially important break-through for the UK Governthrough for the UK Govern-ment's counter-offensive with the arrest of two heavily-armed men suspected of being IRA terrorists after they had entered the country by car from Holland through a remote border crossing near Aachen. The arrests followed recent moves by the IRA to step up its commaten against British mili-

campaign against British mili-tary personnel in continental Europe. West German police believe they may have pre-vented another attack on a

British base. In e strongly worded state-ment, Mr Charles Haughey, Irish Prime Minister, and his Cabinet colleagues said "the frightening escalation in the level of violence undermines

come of the Omagh operation and accused him of interfering in British affairs. The Rev William McCrea; Democratic Unionist MP for Mid-Ulster, said it was "shear hypochisy" for Mr Haughey to demond a tenor from the Brit. the very maintenance of the rule of law, and can only bring rule of law, and can only using further divisions and tragedy for the people of the North." Mr Haughey's request for a report on the deaths through the Anglo-Irish secretariat in Belfast was immediately

demand a report from the Brit-ish Government. The Irish Prime Minister, be added, had not demanded a report on the recent murder of eight British soldiers. In London, Mr Jim Marshall, an opposition Labour Party spokesman on Northern Ireland, wrote to Mr King ask-Continued on Page 16

**CHILE VOTE** 

Pinochet keeps all the trump cards

Page 16

# attacked by predominally Prot-estant Unionist politicians in Ulster who welcomed the out-**Italy ends** attempt to land waste in Britain

By John Wyles in Milan and Richard Donkin in London

**ITALIAN** authorities appeared last night to have given up all hope of landing in Britain some 2.100 tons of waste transported from Nigeria on board the ship Karin B.

As the vessel began sailing eastwards along the English Channel, a spokesman for the Ministry of Civil Protection in Rome acknowledged that "there seems to be no chance of landing the cargo in Britain."

ment of the Environment said it was satisfied that a repeat of the Karin B affair was unlikely because port anthori-ties had been slerted to the need for full documentation about imported consignments. EC regulations on the cross-horder monoment of toxic sching vois in Europe at prices between 18 per cent and 29.2 per cent less than those they were charging in their home markets. This helped the companies to boost their com-bined EC market share from border movement of toxic wastes were to come into force in the automn.

8.6 per cent in 1985 to 30 per cent now, according to Com-mission estimates. Overall EC that earlier implementation of the import regulations due to come into force on October 14 sales of VCRs climbed from - and export regulations to be enforced a month later, on November 14 - would have 5.8m units in 1964 to 7m last year, the growth lagging well behind the boom in Far East-

# **Brussels** imposes duties on video recorder imports

By William Dawkins in Brussels

**HEPORTS** 8 Korini 75 425 1,224 Japant 75 901 782 Imposition of the duties, of Imposition or the numes, or up to 30 per cent and affecting \$600m worth of imports anni-ally, is the strongest sign yet of the Commission's wish to keep alive European production of VCRs and other consumer elec-

Mr. Takao Negishi, European representative of the Japanese Electron.'s Industry Associa-tion, said: "We are very The five Far Eastern compa-nies involved were found by the Commission to have been selling VCRs in Europe at unhappy with such actions, which are becoming almost daily events as well as with the criteria which the Commis is using to give almost auto-matic dumping margins. The duties were triggered by

allegations of unfair pricing made last year by the Milan-based European Association of Consumer Electronics Manufacturers, a lobby grow com-prising the seven main Suro-pean VCR makers, including Philips of the Netherlands, Grundig of West Germany. Thomson Grand Public of

#### branches in Frankfurl Afghanistan has written to the United Nations proposing a meeting between the US, the Soviet Union, Pakistan and Afghanistan to discuss the Geneva eccords on Afghan-istan, said Tass, the official

Soviet news agency. Meanwhile, uncertainty among Afghan guerrillas after the death of President Zia ul-Hag of Pakistar, has provoked an all-out fight between resis-tance leaders over control of the city of Kandabar. Page 3

for four-sided banks plan

#### Airliners crash

At least 13 people were killed when a Delta Air Lines Boeing 727 with 104 passengers and crew on board crashed on take-off from Dallas-Fort Worth Airport, Texas, Air transport conference, Page 6; Hong Kong crash, Page 16

#### Sudan slege deaths

The UN World Food Programme said more than 100 people a day were dying of hunger in the town of rebel-be-sieged Sudanese town of Aweil. A Governmeot spokesman said at least 4,000 had already died of starvation there. A relief train carrying food set out for Aweil on July 15 but is await-ing a military escort.

#### US ABM warning

The US warned the Soviet Union that it would consider declaring a radar station in Siberia a "material breach" of the 1972 Anti-Ballistic Missile Treaty. Page 2

China seres Vietnam China accused Vietnam of disgaising tens of thousands of its troops in Kampuchea and sending large amounts of arms to prop up the government it supports in Phnom Penh.

Mungary stoppage Workers at a Budapest factory staged Hungary's third strike in a week when they stopped in protest at the sacking of

SIE MORE Japanese banks plan to set up investment banking subsidiaries in Frankfurt by early next year, undaunted by last October's stock market crash and the present torpor in the West German stock and bond markets. Page 16

WEAKER YEN added further discouragement to Tokyo equi-ties, pushing share prices down in thin volume. The Nikkei average, which had finished

### Yen

Yen per \$ 131 132 133 134 135 136

Page 17

137 Jul 1998 Aug higher on Tuesday, failed to retain its modest strength and closed 145.70 down at 27,365.95. Page 36

**VOLKSWAGEN**, West German car manufacturer, expects worldwide sales to reach record of nearly 2.9m vehicles this year after a 2 per cent rise to 1.48m in first six months.

NATIONAL Westminster Bank of UK is to raise £100m by seek ing a listing for its shares on Tokyo Stock Exchange and making a public issue in the Japanese market. Page 17 BID battle for Peachey Prop-

erty Corporation, the UK com-pany which owns London's Carnaby Street, came to a swift conclusion after Wereldhave, the Dutch predator, raised its offer and Cazenove its stockolic Intelligentsia Club, who

to end action after official talks

#### By Christopher Bobinski in Warsaw

an end to the strikes at the Gdansk shipyard and else-

Minister, Mr Walesa sent a telex message to strikers asking them to

could end very soon.

to persuade the anthonities to recognise his trade union. Bishop Jerzy Dabrowski, repre-senting the Catholic Church,

also attended yesterday's talks. Prof Andrzej Stelmachowski, chairman of the Warsaw Cath-



terrorist violeoce. The killings are the latest in

a period of renewed violence both within Ulster and on the

UK mainland. The British Gov-ernment has come ooder

increesing pressure to take tougher measures to deal with

the situation, including the

reintroduction of internment

MR LECH WALESA, leader of Poland'e hanned Solidarity trade union, last night urged

where following a three-hour meeting with Gen Czeslew Kiszczak, the country's Interior

end their protest after return-ing from Warsaw to his home city of Gdansk. An aide said last night that Mr Walesa was conferring with strikers at the shipyard, and the strike there

The Warsaw meeting, a pre-cursor to wide-ranging talks on Polish labour unrest due to start when all the stoppages have ended, left Mr Walesa hopeful that he would be able

Lech Walesa: moderate line

pro-Solidarity strikes this year. Mr Walesa'e meeting with Gen Kiszczak came eight years

period during which the aothorities had sought to destroy Mr Walesa's reputa-tion, was "the beginning of a process, the results of which were uncertain." Mr Wiadyslaw Baks, a politburo member in charge of the economy yesterday reiterated

that the authorities wanted to see only one trade union in each factory, a role now being performed by the official OPZZ union.

However, he admitted that the authorities needed popular support to continue reforms which would decentralise the Polish economy and to combat inflation

Mr Walesa seeme to have taken a moderate line at yes-terday's meeting. This was echoed by Prof Stelmachowski, who said that the talks would have to take time as the authorities had to be reassured that the conflicts of 1961 would not recur if Solidarity were

recognised He said that the return of the banned union would "involve its members in a com-

Meanwhile the UK Departtronics.

The Department admitted

THE European Commission EC VIDEO RECORDER yesterday imposed anti-dump-ing duties on imports of cheap video recorders from five com-Japan in a move expected to provoke immediate price rises throughout the \$2bn European Community market for VCRs.

Tostores Bildeter Semang. 10riss, Panel. Terior European Commenter targets of a growing number of EC anti-dumping actions over

their director.

#### Burna strike call

Burmese opposition groups called for nationwide general strikes and demonstrations again today, to add to the pressure on the one-party government for a return to democracy. Page 3

Elexican party's setback Mexico's ruling Institutional **Revolutionary Party (PRI) held** a much reduced 20-vote major-ity when the 500-seat Congress as formed. Opposition deputies have vowed to try and overturn the July election of **PRI candidate Carlos Salinas** de Gortari.

#### Greek smog ban

Greece banned half the taxis and privately owned cars from the Athens area to control a smog cloud that sent et least 75 people to bospital.

#### Kurds filee

Evewitnesses put the number of Iraqi Kurdish refugees crossing the border with Turkey to escape the Iraqi Army as high as 100,000. Page 2

#### Chilo deaths

Three people were shot dead and more than 800 demonstrators arrested in protests against the military's choice of President Augusto Pinochet as sole candidate for a presidential plebiscite. Page 16

#### Ecuador economic plan

Ecuador's new Government announced an emergency plan as the first stage towards putting the economy in order and reducing inflation from 60 to 30 per cent. Page 4

#### Hungary's hard lottary

Hungary has begun selling its citizens lottery tickets for D-Marks, dollars and Austrian schillings to help service the nation's hard currency debt of nearly \$18bn. Page 2

STERLING

New York close \$1.6845 (1.688)

London: \$1.6840 (1.6905) DM3.1625 (3.155)

FFr10.74 (10.69) SFr2.67 (2.665) Y229.75 (227.25)

New York close DM1.8775 (1.86675)

FFr6.374 (6.3365) SFr1.585 (1.5775) Y136.5 (134.85)

New York

Comex Dec \$439.9(437.7)

DOLLAR

MARKETS

600 400 1988

ATEREST HATES

London 3-month interbank;

close 1216 (124)

Fecleral Funds 61g%

(ar. 12) 3-ar. 14h Treasury Bills: yeid: 7.52% (same) tbias Bond: 96 3 (ar. 13) yfeid: 9.31% (9.32) DM1.8775 (1.8665) FFr6.3775 (6.325) FFr6.3775 (6.325) (ar. 13) yfeid: 9.31% (9.32) GOLD London

1988

Zinc Cash matai (2 per tonne)

for Peachey shares. Page 17 HACHETTE, leading French publisher, has agreed to buy Salvat, fifth largest publishing

house in Spain, for around FF7350m (\$55.3m). Page 19

BANK OF NOVA SCOTIA. Canada's fourth-largest char-tered bank, reported earnings of C\$368m (US\$299m) or C\$2.02 a share for first nine months of fiscal 1988, up from C\$359.7m or C\$2.09 on an operating basis a year earlier. Page 18

SUN MICROSYSTEMS, the leading US computer workstat ion manufacturer, signed e long-term technology licensing

CARNIVAL CRUISE Lines of Miami, world's third-biggest cruise company, looks likely

and co-operative development pact with Texas Instruments. largest US semiconductor producer. Page 18

to take over Royal Admiral Cruises, the second biggest. Page 18

ANTOFAGASTA HOLDINGS, listed in London though most of its assets are in Chile, has about \$100m of cash ready for ecquisitions, according to

chairman Andronico Luksic. Page 18 HONEYWELL, the US elec-tronic controls and defence equipment group, is putting up for sale four divisions of its space and eviation systems business. Page 18

ALUSUISSE, the Swiss light metals and chemicals group, hopes to resume dividend payments this year after a threeyear absence. Page 19 STEYR-Daimler-Puch AG, Austria's financially troubled machine and engineering group, has trimmed its loss for 1967 and aims to break even by 1990. Page 19

JACKSONS, Australia's first listed stockbroker, slipped into red for year to June. Page 20

STOCK INDICES

New York close Dow Jones Ind, Av.

2.031.65 (-6.58)

261.53 (-0.97)

1,753.6 (-1.2)

World: 122.96 (Tues)

27,365.95 (-145.70)

Brent 15-day (Argus)

FT-SE 100

Tokyo Nikkei Ava

Frenkfurt

OIL

cição

Commerzhani

1,473.3 (+7.5)

\$14.525 (-0.02) West Tex Crude

\$15.325 (+0.05)

S&P Cor

played a key role in setting up the talks, said yesterday that the authorities had made clear brokers, swept into the market there were to be no taboo sub-jects at the forthcoming meetings with the Interior

Minister.

At yesterday'e talks, Mr Stel-machowski said the Solidarity

has been a prime demand of workers who have been on strike this month et coal

leader had put on the agenda "the roads leading to the realis-ation of trade union pluralism

mines, ports, shipyards and e steel mill in the second wave of

and Solidarity's role in the country." Re-legalisation of Solidarity

to the day after the author. Hes agreed in Gdansk to the setting mon front" supporting official economic reform .efforts up of Solidarity. The union was against conservative resisbanned 16 months later when tance martial law was introduced.

Gen Kiszczak's brief eppears to have been to calm the situation in the country, although without offering official recog-nition of Solidarity. Rather, officials continue to declare they are ready to make far-teaching concessions on the political front and hope to incorporate opposition leaders

1

into official institutions. Mr Stelmachowski, however, said that yesterday's meeting, which ended a seven-year

Meanwhile Mr Zbigniew Messner, the Prime Minister, yesterday accepted personal blame for economic ills behind the latest strike wave, but said his government's economic pol-

key was on the right track. Mr Messner spoke at a meet-ing of a special parliamentary committee called to examine the government's handling of crucial economic reforms in recent months after sharp criti-cism by leaders of the ruling Communist Party.

of the Environment denied that implementation of the regulations in the trans-fron-tier shipment directive had ther snipment alrective had been speeded up by the row over the Karin B. Britain, he said, would be the third country to enforce the regulations, following Den-mark and Holland. The only

son for a delay in enforce-Continued on Page 16

prevented the ship setting out for Britain in the first place. -In future, the waste pro-ducer would have to give the ern exports. The five companies include all of South Korea's main VCR producers - Daswoo, facing a duty of 29.2 per cent of its EC receiving waste disposal authority a month's police of sales prices, Goldstar, being fined 26.4 per cent and Samany shipment of toxic wastes. A spokesman for Department sung 25.2 per cent. The other

two companies concerned are Funai and Orion, both from

Japan and facing duties of 18

per cent each. The five compe-nies were most active in the

The Commission action pro-voked immediate protest from Japan and add a further irri-tant to the EC's tense trade relations with South Korea.

Both countries have been the

纵使用千种、万种语言来表达,

"澳新银行"的意思总是一样:

澳大利西亚的领导国际银行

En cualquier idioma, ANZ es el primer

banco internacional de Australasia.

Kwa lugha voyote ANZ ni benki Mashuhuri

ya kimataifa ya Australasia.

lower end of the market.

Britain and rere

Britain. In a statement yesterday, the Commission said it was in the Community's interest to impose provisional duties to get rid of the threat posed by the cheap imports from the Far Eastern companies to the European VCR industry and to the thousands of employees linked to it.

The Commission added: The maintenance of production by the Community indus-try is essential so that it can develop by its own efforts new technologies for consumer goods of the future." US imposes dumping tax on Thai bearings, Page 16

No.

# Union Texas loses appeal over taxing of dividends from UK By A. H. Hermann and Richard Waters in London

BRITAIN'S Inland Revenue sion. Clifford Chance, the London firm of solicitors acting for Union Texas, could not say whether there would be a furwon an important tax case in the High Court yesterday when ther appeal. In addition to removing the

the high court yesternay when Union Texas international lost its appeal against tax deduc-tions from dividends paid to it by its UK subsidiary. Union Texas won its argu-ment, however, that the calco-lation of withholding tax was wrong and was awarded £1.3m. This has opened the door to similar claims totalling about 250m from US corporations in a similar position. The US company's claim in respect of deductions made in

respect of deductions made in the period 1981 to 1985 amounted to abont £23m (\$39m). However, the potential threat to the Inland Revenue was much greater. A success-ful eppeal by Union Texas would have been followed by similar claims by other US companies, which, according to official estimates, could have easily surpassed £1bn. Inland Revenne officials seemed pleased with the deci-

**Romania's old and diverse** 

cultures face annihilation

CONTENTS

Compan

World Trade

enue could be forced to repay 0.2 per cent of all dividends which have been paid by UK subsidiaries to their US par-ents since 1980, amounting to an estimated £50m. Tax advisers said that US cli-ents which have received sub-stantial dividends from the UK

have been waiting anxiously for the decision. Several are said to have begun legal pro-ceedings against the board of the Inland Revenue for misin-terpreting tax law in the hope that this would protect their position if the case went accinet them.

En toutes langues ANZ est la première des banques internationales d'Australasie

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Section III

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ALISTRALLA O BARIAMARO BAHRAIN O BANGTLADESTI O BRAZIL O CANADA O CANADA O CANADA DE PEOPLE'S REPORT LE'S REPORT LE SERVICE LE OF CHINA O FUI O FRANCE O CERMANY O CHIANA O CREECE O GURANDA O CANADA O CANADA DI RODANSIA O BAN O TRALI O JAPAN O LENET O CORTANA O TANNA O CREECE O GURANDE O MILATSIA O MODANSIA O BRAN O TRALI O JAPAN O LENET O CORTAN O TRAN O TRALALCO E CORTA O MILATSIA O MODANI O MODANSIA O BAN O REVEZILARIO O NALERIA O CANA O FRANTA O PARA NA O PARA NA O CANADA O LINTE O ARAS BANRATES O UNITED KINGDOM O SPAN O SUL LANKA O SUTTZERLAND O TANVAN O TRABAND O UCANDA O UNITED ARAS BANRATES O UNITED KINGDOM O UNITEDISTATES OF AMERICA O VANUATU O ZAIRE O ZAMBA O ZIMBANSE.

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The decision, which turned on the interpretation of the UK-US double tax agreement, took Mr Justice Harmond two years to reach. He said he changed his mind several times during the hearings in July 1986 and the two years he

considered the judgment. The difficulty of the case appears to have been purely of Continued on Page 16

ements How Tonks toys with its Euro-

Australia: Aslan immigration issue divides

Editorial comments Pinochet stakes Chile'e

Economic viewpoint: Unemployment is still

Kuwait and SP: Britain's free market credibil-

Raw Materiale Stock Markets -Wall Street

Unit Trusts

future; Lessons of the Karin B: .

Less Maxwell; Peachey; Pearl; ESR; .

16

12

tax credit paid. It was found that the Inland Revenue had deducted about 0.2 per cent more from divi-dends paid to the US than was provided for in legislation - to-talling £1.3m in Union Texas'e case. This means that the Rev-

Marrow Voter

pean range: ...

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Financial Futures \_\_\_\_\_ 23

Opinion: .

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threat faced by the Inland Rev-enue in this case, the purpose-ful method of interpreta-tion - trying to follow Parliament's intention rather than the draftsman's text - adopted by the judge creates an interesting precedent for future cases involving double while Union Texas lost on the main point, its appeal was allowed on a second minor claim concerning the calcula-tion of the 5 per cent deduction from the sum of dividend and

Nicolae Ceausescu

tion of minorities.

dustrial plants Page 2

World Guide

Currencies \_\_\_\_\_

Agriculture

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Crossword .

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These ethnic groups

may not survive the threatened buildozing

of villages to make way for giant agro-in-

the Romanian leader. has adopted a policy

of forceable assimile-

#### EUROPEAN NEWS

# Higher economic growth forecast in France

THE PICK-UP in the French economy is showing much more staying power than expected, to the point where the Government is now counting on an overall growth rate for 1988 of nearly 3% per cent. This is faster than forecast either by the Government or the Organisation for Economic

Co-operation and Development. In June the latter projected 2 per cent growth this year, by the beginning of July the French national statistical office was taking a more opti-mistic view, but its forecast for

1988 was still only 2.8 per cent. A new, higher forecast will not be published until the mid-dle of this month. But Le Monde has reported that the Government is now counting

By David Goodhart in Munster

on 3.4 per cent this year, and Mr Piarre Beregovoy, the Finance Minister, yesterday obliquely conceded in an interview that the figure would probably be of this order.

At this rate, the economy would be growing faster than in any year since 1979; since the low point of near-stagna-tion in 1983, the pace has quickened each year, but last year's growth rate was only 2.2 per cent per cent

The slow-down previously expected for the second half of this year is now being forecast for next year. Even so, Mr Beregovoy yesterday said he would be counting on a growth rate of 2.5 per cant in 1989. An important factor in this year'a rate is the vigour of

industrial investment, which in the spring was forecast to grow by 6 per cent this year, but which is now projected at around 9 per cent. This is an important contributory factor in the continuing foreign trade deficits in industrial goods.

The prospect of continuing expansion in the economy will obviously be an important plus for the new Socialist Govern-ment of Mr Michel Rocard, which has yet to show how if will govern in the absence of a dependable majority in tha

National Assembly. In particular, the economy's vigour is already smoothing the Government's path in the lead up to its first major parliamentary test during the com-ing autumn session - the bud-

West Germany's tax scandal

entangles insurance magnate

Haig Simonian reports

on Hans Gerling, who

has been ordered by a

court to return from

Switzerland to face

tax evasion charges

zerland provoked suspicion

that be might attempt to avoid justice. "It is known in legal circles that Mr Gerling does

not like to appear before the

tests.

sion.

get for 1989. The buoyancy of tax revenues is such that the Finance Ministry is already predicting that this year's bud-get deficit, originally expected to be FFT115bn (£10.7bn), will turn out to be no more than FFr100bn.

FF100bn. As a result, in yesterday's interview Mr Beregovoy was able to hold out the possibility of tax reductions, while at the same time increasing the level of government spending next year by 4.5 per cent. The main increases will be in education for 5.6 per cent with 12000 (up 5.6 per cent, with 12,000 new jobs planned), in research (np 6 per cent), and in employment measures (np 12.3 per cent).

The minister reiterated that the Government's aconomic

policy would be based on three principles: control of inflation, lower interest rates, and a res-toration of the balance of pay-ments. He would be pressing the West Germans for more co-operation in stabilising the foreign exchange markets and reducing interest rates.

reducing interest rates. He envisaged tax cuts total-ling FFr10bn-FFr12bn, shared equally between the corporate and household sectors; no deci-sions had yet been taken, he said, but implied that the changes would include reduc-tions in VAT rates and fiscal incentives for company investincentives for company invest ment. According to one report the government is considering

cutting the corporate tax rate from 42 to 37 per cent on reinvested profits.

Netherlands

EYEWITNESSES yesterday put the number of Iraqi Kurdish refugees streaming across the border with Turkey to escape the blitzkrieg of the Iraqi Fifth Army in northern Iraq as high as 100,000. Officials in the region privately admitted that about 50,000 were camped near the town of Cukurca, some 10. chemical weapons been tended by units of the Hakkari provincial govern-ment. But so far no civilian aid

**Up to 100,000 Iraqi** 

fighting into Turkey

**Kurds flee from** 

the town of Cukurca, some 10 miles from the border. miles from the border. Reports from the eyewit-nesses say the tide of refugees swelled particularly after the Iraqis launched an all-out cam-paign on Angust 26 against remaining dissident Kurdish villages and guerrilla bases, the latter mainly of the Kurd-ish Democratic Party led by Mr Mesud Barzani. out the Gulf war between Iran and Iraq, officials in Ankara have remained steadfastly neu-tral, although economically supportive without supplying. Mesud Barzani

The flood across the ill-de-fined border appeared to take the Tarkish authorities by sur-

The resolution, proposed by a group of independent experts including Mrs Claire Palley, principal of St Anne's College, Oxford, urged Iraq to ensure "full respect for buman rights and fundamental freedoms" forces attempted to stem the tide, but on Monday night, the Government ordered the bor-der to be opened to the refuigees. However, even on Tues-day, Turkish Foreign Ministry statements still stressed that Turkey was under no legal obligation to take in the refu-gees, and would do so only on humanitarian grounds.

The refugees have been cared for, and their wounded - some allegedly burned by

# By Hilary Barnes in Copenhagen CUTS IN a variety of welfare payments, higher charges for medicine, user charges for records and tapes from public libraries, and labour saving productivity increases in tha public sector bureaucracy are called for by the Danish Gov-ernment in the draft budget for 1968 presented yestarday. or relief organisation has been allowed access to them. The Government's tardiness in admitting the scale of the problem (it still has not released any estimates of refu-1969 presented yesterday. The three-party non-Socialist gee numbers) was blamed by diplomats in Ankara on the fact that it was caught off bal-ance, and on diplomatic sensi-tivities in the region. Through-

minority coalition's intention is to maintain budget expendi-ture at an unchanged level in real terms next year and to cut it by about 1 per cent in 1990. But in order to achieve next year's objective some DKrlibn (2916m) must be trimmed from

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expenditure before the Finance Bill is passed in December. Mr Palla Simonsen, the Finance Minister, said that the "tight budget" and the lid on spending was an essential part of the Government's strategy for eliminating the external current account deficit, which is now in its 25th successive

we attach colossal priority to achieving balance of pay-ments equilibrium," he said. The current account deficit The current account definit is expected to rise from about. DKr6bn in the current year to DKr14bn next year, according to the budget statement. The draft budget shows a surplus for 1988 of DKr7.8bn.

compared with a deficit of DKr3.5bn in the current year. Expenditure, excluding inter-est on the national debt, is set to increase by 5.3 per cent from DKr208.6hn to DKr219.6bn, while revenue will increase by 7.6 per cent from DKr258bn to DKr278bn, reflecting a moder-ate recovery in domestic demand rather than increased

rates of taxation. Interest on the national debt, which will fall from DKr418bn to DKr41bn, or from 57 to 54 per cent of gross domestic product, will declins from DKr53.3bn this year to DKr50 6bn :

The abolition of the subsidy on penicillin and reduced sub-: sidies on other prescription medicines are among the Government's most controversial proposals. In an attempt to limit unemployment benefit payments, employers will be called on to finance the first day of unemployment and the employee to finance the second day's benefit.

The Government faces a dif-

#### taine and the party's union wing they still represent a marked shift in perspectiva and a clear admission that WEST GERMANY's opposition Social Democratic Party vester-day attempted to re-establish its lost credibility in economic weekend working and worker share ownership. He also recmanagement hy supporting a new package of policies designed to challenge its antiommended looking at propos-**Keynsian demand management** als to subsidise companies to hire more workers. is not enough. The SPD has long accepted the principles of the social Mr Hermann Rappe, head of

business image. Mr Oskar La Fontaine, SPD deputy chairman, spelt out the plans of the party's economic committee for lower taxes on reinvested profits and environmentally friendly companies. and more flexible working time and pay freezes for better paid workers to help create jobs. But Mr La Fontaine, who is

likely to be candidate for Chan-cellor in 1990 or 1994, went further than the committee pro-

**US** presses

Moscow on

**ABM** treaty

THE US yesterday sought to

step up pressure on the Soviet

Union over the 1972 Anti-Bal-

listia Missile Treaty by warn-ing that it will consider declar-

ing the Krasnoyarsk radar station in Siberia a "material breach" of the accord

At the end of a five-yearly review of the ABM Treaty, the US delegation said it was still

not satisfied with the Soviet

position on the so-called phased-array radar installa-

**By Andrew Gowers** 

in Geneva

posals and drew the anger of union leaders by proposing

SPD bid to alter its anti-business image

market economy and for a time under Chancellor Helmut the moderate IG Chemie chemical workers union accused him of "trying to create a higher profile for yourself on our backs." And Mr Franz Steinkuhler, head of 1G Metail, Schmidt was regarded as the party of big capital as well as big labour, with the Christian Democrats representing small and middle size husiness. said that waekend working would increase production

without an increase in demand and lead to plant closures. Although the economic committee'a proposals are a com-promise between Mr La Fon-

WEST German insnrance

magnate Mr Hans Gerling, 73,

against whom an arrest war-rant was issued earlier this

week by a Cologne Court in a

complicated case involving tax evasion charges for political contributions, is no stranger to

The multi-millionaire busi-

nessman, who owns the Gerl-

ing group, one of Germany's largest insurers specialising in

insuring the country's blue chip companies, shot to public prominence in the 1970s follow-

ing the spectacular collapse in

1974 of Bankhaus Herstatt, the

legal tussles.

associated primarily with dis-armament and social justice. Despite the SPD's recent rise in the polls voters still had a low opinion of its economics. The new thinking is meant to combine economic compe-

and should be attractive to both Green and fiberal voters. Mr La Fontaine complained that while company profits were hack to 1960s levels, investment was too low, and he accepted parts of the indus-But since losing power in 1982 and flirting with the idea of alliance with the radical trialists' arguments that this is because of excessive company tax. However, the SPD pro environmentalist Green party, the SPD has lacked credibility poses to increase energy tariffs and tax production which damin economic policy and been ages the environment.

plans big tax cuts By Laura Raun in Amsterdam THE DUTCH cabinet has

THE DOTCH cabinet has agreed to cut steep taxes for both business and individuals as part of the 1989 government budget in an effort to offset rising inflation and a scrapped investment subsidy. Corporate income tax will be trimmed to 35 per cent from 42 per cent from October 1 and

value added tax to 18.5 per cent from 20 per cent in January. Child benefits are expected to rise by 4 per cent next year. Mr Ruud Lubbers' adminis

tration will unvell the budget tration will unveil the oudget officially when Parliament re-opens on September 20. How-ever, details leaked out after the cabinet ended talks late yesterday, having earlier agreed on modest spending curhs of around Fi 1.5bn (6429m) pert year.

The issue is what then hap One economist yesterday criticised the fiscal blueprint for failing to pare sufficiently While some of those involved have settled out of court, Mr Gerling and others like him have argued they are innocent, on the grounds that the subsethe Government's gaping bud-get deficit, and for assuming faster economic growth than was likely. "The deficit is still too high, the targets are too low and government debt is invite the terment debt is quent treatment of their contributions was outside their con-trol. Thus they have claimed rising too steeply," he warned. A lower value added tax and more generous child benefits that they were unaware of later diversion to party coffers. Moreover, they say their activi-ties were common practice at are aimed at maintaining consumers' purchasing power in the face of higher than expec-

In January, Mr Gerling was fined more than DM1.8m ted inflation - now forecast at about 2 per cent next year instead of 1 per cent. one of the highest fines Relief in corporate inco

Hungary launches lottery to tap hard currency By Leslie Colitt in Berlin

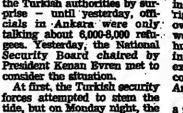
HUNGARY HAS begun selling its citizens lottery tickets for D-Marks, dollars and Austrian present proof of its origin. From the black market exchange of zlotys into dollars. The "N" accounts were in schillings in an attempt to help service the nation's gross hard currency debt of nearly \$18bn, the highest per capita in Easteffect a laundering device and money in them did not earn interest for the first 12 months.

ern Europe The hard currency lottery is Afterwards the funds could be the latest device introduced by transferred to an interest-bearfinancially hard-pressed East European governments to tap ing "A" account. The authorities discontinued growing convertible currency the "N" accounts last July and allowed people to transfer as A ticket costs DM10 or the

much hard currency as they wished into "A" accounts. equivalent in other Western Another device being used to currencies, with the proceeds on off hard curren

and fundamental freedoms and fundamental freedoms and halt immediately the use of chemical weapons. It did not mention tha Kurds by name, but was clearly prompted by reports of Baghdad's recent commits accurate its Kurdish campaign against its Kurdish minority.

# saponry. Andrew Gowers adds from Geneva: A resolution express-ing concern over the human rights situation in Iraq and over Baghdad's use of chemical over Baghdad's use of chemical weapons was put to a UN human rights sub-commission in Geneva today, but was expected to be deleated by e coalition of Communist and Arab states.



that the Reag administration reserved its rights to take "appropriate and proportiooate responses" in future. Washington has already declared the radar a serious violation of the treaty on the grounds that it could provide the key to a nationwide ballistic missile defence. The statement reiterated the long standing American position that unless the radar is verifiably dismantled, the US will be unable to conclude any

future agreements with Moscow on strategic nuclear arms or space defence systems. The US statement, while acknowledging that Soviet construction efforts at the radar site have slowed down, raised

the stakes in Washington's cempaign against alleged Soviet violations of the treaty. Independent experts said that although it did not directly threaten abrogation of the treaty, it implied that the US may not feel bound indefinitely hy its provisions. The issue is important

because of the controversy over the US Strategic Defence Initiative, or Star Wars programme, part of which Moscow in turn contends is a violation of the treaty. By repeatedly raising the krasnoyarsk problem, Washington is aiming to deflect criticism, put the onus on Moscow for alleged ABM violations and retain e free band in SDI meanship hand in SDI research.

"The Americans want to keep the ABM Treaty going so long as it does not affect their SDI research," said a Londoo arms control expert. "They don't want to be the ones seen to be abrogating the treaty.'

President Reagan has directed the Pentagon and other government departments to consult with Congress in developing a response to the alleged Krasnoyarsk violation.

The Soviet Union maintains that construction work on the radar has been frozen, and that the Krasnoyarsk installation cannot be a violation of the treaty if it is not operational.

by his company,

The subsequent debt settle-ment involved Mr Gerling sell-ing 51 per cent of his insurance empire, which be dramatically bought back 10 years later. Mr Gerling was never charged in the Herstatt case, which closed in 1983. However, he left Germany just before the court planned to summon him to testify, resurfacing later in Switzerland.

This week, Mr Gerling was again in Switzerland, where he is undergoing medical treatment, according to his lawyers. This led Judge Albrecht Osswald to issue the arrest warrant for Gerling's return to

Germany. Judge Osswald justified his decision on the grounds that Mr Gerling's departure to Swit-

Switzerland does not extra-Germany, However, he chose dite people to Germany in tax. to fight the action rather than cases. However the judge pay np and get a criminal record, leading to the present suspended the arrest warrant for four weeks to allow Mr

the time.

pens to the funds.

Gerling to undergo medical There are grounds to sugges Mr Gerling was indeed unaware of what happened to The latest case is one of sev-eral against leading German businessmen alleging tax evahis contributions to an associa tion linked to Germany's Christian Socialist Union - a conservative political party. However, Mr Gerling may find his image harmed. During the Among those involved so far have been famous names like Mr Konrad Henkel, scion of the eponymous chemicals group, Herstatt case, the unbending insurer - who has since develand Mr Hans Merkle, the

supervisory hoard chairman of Robert Bösch. The underlying issues are oped a strong distaste for unsavoury questions in general and the press in particular - sent his butler to court instead. The complicated. In Germany, charitable contributions can be loyal servant chose not to reveal his amployer's where-abouts - and landed up in fall written off against tax - even if they go to the charitable foundations of political parties. as a result.

tax, is intended to compensate industry for the abrupt abolttion of an investment-subsidy scheme earlier this year. Indus try has insisted that the cut go ahead on October 1 instead of. being delayed in order to help

offset cost overruns in the abolished scheme. Besides stimulating the sluggish economy, the tax cuts are designed to bring the Netherlands closer into step with the rest of the EC in preparation for the single market in 1992. Windfall tax revenues will finance the tax cuts and still allow the Christian Democrat-Liberal Government to shrink the budget deficit in line with its goals. The deficit is forecast to narrow to about 6 per cent of national income in 1989 from

6.7 per cent this year.

oing direct ly muto the stat coffers. The first draw will be held on October 2 when top prizes will include two BMWs, wo Citroens and VWs, colour television sets, videos and hifi systems. Ticket sales are reported brisk as the waiting time for a Soviet-made Lada

to open hard currency accounts for travel to the West car in Hungary is six years. Hungarians along with Poles are able to travel to the West and has introduced a scheme under which the Western relawhere many of them work. They frequently use the money tives or friends of Czechoslovaks pay for documents they need to travel to the West in to huy Western products in hard currency shops at home or save it for foreign travel. hard currency.

Only last month East Ger-Thus both Hungary and many began to permit trans-fers of D-Marks from West Ger-Poland offer their citizens high interest rates for depositing hard currency in special accounts. Poland introduced many to Bast German nationals wbo, however, receive the proceeds in hard the "N" account in 1985 which allowed Poles to deposit hard currency without having to currency coupons for use in special shops.

ficult task navigating the budthe population is to sell them; package tours to the West. The Polish travel bureau Orbis is get through Parliament. The main opposition party, the Social Democrats, yesterday offering Poles three-day trips by air from Warsaw to West Berlin for \$162 plus ZI 21,700. Czechoslovakia has also lambasted the Government for attacking weifare expenditure, but the party has already said that in order to avoid a politibegun encouraging its citizens cal crisis this winter it will not vote against the Finance Bill. 1. . . . . . .

> **BBC** attempts to push open the Soviet door

By Raymond Snoddy

MR JOHN TUSA, managing director of the BBC World Ser-vice, has appealed to the Soviet Union to take glasnost a stage further by increasing journalistic access to the country. He has written to Mr Ivars Kezbers, director of Radio. Moscow, the Soviet Union's

external broadcasting service which transmits programmes in 84 languages, appealing for the removal of barriers facing foreign journalists in the Soviet Union. He wants greater freedom for journalists to travel without the cost of hav-

ing to pay for "minders." Mr Tusa was responding to requests from Radio Moscow requests from Radio Moscow for an exchange of pro-grammes, a request which he rejected. "International rela-tionships of that institutional kind have a rather poor record," he said, while amoun-cing yesterday that all the external services of the BBC would be known as the BBC Would Service. World Service

World Service. "What we want is greater journalistic access," said Mr Tusa who earlier this year shared a platform with Mr Kez-bers and Mr Dick Carlson, director of the Voice of America, et a conference in the US. There had already been a dramstic change in attitude in the Soviet Union, he said. Writers and intellectuals were more ready to speak openly to the RBC Russian service.

EINANCIAL TIMES

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# Ceausescu's bulldozers ready to bury rich heritage The old and diverse cultures of Romania's minorities are facing annihilation, writes Judy Dempsey

GNES K. left Transylvania in A Romania four months ago with her two small children to settle in neighbouring Hungary. She left behind all her friends and most of her belongings.

Starting a new life in Hungary, she admitted, would not be easy. But if was her choice. "I want my children to speak Hungarian in the achools and in the street. At home, in our small town in Transylvania, we were discouraged from speaking Hungar-

ian," she said. The 1.7m ethnic Hungarians, Europe's largest minority, are just one of several minorities who live in Transylvania. But over the past 20 years, these minorities, whose centu-ries-old traditions make up part of Romania's rich culture, have either emigrated or become gradually, but forcibly, assimilated into the Romanian way of life.

Apart from the Hungarians, which include the 600,000 Szeklers and 100,000 Csango Hungarians, one of the oldest minorities in Romania is the German community. Known as the

Saxons, they were invited to Transylvanis in the 12th century hy the Hun-garian king, Geza 11 (1141-1162). Their main task was to guard the south-

eastern frontier of Transylvania. Over the centuries, the towns of Sibui and Brasov, whose architecture still reveals a distinct Habsburg infin-ence, became centres of a thriving German culture Later, in the 18th century, the Sax-ons were joined by the Swabians, who

had originally come from the regions along the Rhine. They had heen invited by the Habsburgs to settle in the Banat, a region in western Transylvania.

The Swablans were distinct from the Saxons, not only through their religion (they were largely Catholic while the Saxons were Protestant or Evangelical), but they were renowned for turning the swampy, infertile Banat into e rich agricultural region. Over the centuries, several other minorities settled in Transylvania.

These included the 170,000-strong Jew-ish community which came originally from Eastern Europe. Because of the Holocaust and emigration to Israel, tion of rapid industrialisation and migration of large numbers of Romathan 10,000.

The 12,000 Armenians, noted for The 12,000 Armenians, noten for their sound commercial sense, arrived in the region as early as the Middle Ages. But they are fast becoming an historical curiosity. Over the years, they were assimilated by the Hungari-, ans. And the Orthodox South Slavs, who articled in Tranculuentia during who settled in Transylvania during the 19th century and who first adopted the Hungarian language, were later assimilated by the Romanians. Smaller minorities still live in Tran-

sylvania. These include the Czechs, the 50,000 Serbs, the Croats, Slovaks, Bulgarians, and the largely forgotten Ruthenians

But the ethnic minorities are losing their culture, language and identity due to the policy of Romania's Presi-dent, Mr Nicolae Ceausescu. of "Romanianising" these communities. Over the years, the availability of schools, books and newspapers in the

mother tongues of the minorities have been radically cut back. A combina-

nians into the Hungarian, German orother athnic minority regions, has also diluted the sense of identity and culture.

ndeed, the erosion of these cul-tures and the apparent inability of the ethnic minorities to resist the assimilation process, eventually forced the cream of the German intel-

igentsia to emigrate in the early 1980s to West Germany. "When the intellectuals leave, there is little hope for the continuation of the culture," said an ethnic German intellectual who has himself applied to leave. Such emigration has reduced

the once thriving 700,000 German community to 220,000. It is now widely believed that the future of the ethnic minorities will hardly survive Mr Ceausescu's policy of razing villages to create giant agro-industrial complexes. Many Hungar-ian officials in Budapest and West German diplomats believe that this policy will lead to the physical

destruction of a way of life and cul-Under such circumstances, the

Bonn Government has decided to continue to "buy out" the ethnic Ger-mans, even though many officials hold the view that the *Heimat* or homeland of the ethnic Germans is Romania. But, they add, what is a homeland without freedom to express

one's identity. The Budapest Government, for its part, is bombarded with applications from ethnic Hungarians to settle in Hungary. The Slovak authorities have criticised the Romanian plan on the grounds that, besides the threat to the minorities, such modernisation poli-

This "systemisation" policy was raised in talks last Sunday between Mr Karoly Grosz, the Hungarian party leader, and Mr Ceausesrn. Regardless of the talks, the programme looks set to continue. Whatever the merits of this grand agricultural scheme, offi-cials from both East and West believe Romania's once rich heterogeneous culture will be finally destroyed.

# Volgograd tractors bogged down by old technology and poor quality

By John Lloyd in Moscow

THE Soviet Union's biggest, oldest and most honoured trac-tor plant is in e bad way.

tor plant is in e ban way. The Voigograd factory, whose tractors kept Soviet agriculture going through the war and which broke the soil on the virgin lands, now needs re-equipping throughout, can-not bring out new models, has to hire ex-convicts because it is unable to attract the young, and has terrible industrial relations.

At the last meeting at which the general manager addressed his workers, he spoke for an hour and e half and told them

they should not criticise him. Soviet tractor building has been the subject of some comment - largely because its products are said to be of low quality. Estimates, including Soviet ones, point to as much as a third of the stock being broken down or under repair at

These problems include: • Outdated equipment. In the pressroom, 90 per cent of the presses which were installed in any given time. The picture in Volgograd emerges from e round table the thirties, soon after the discussion, printed yesterday in Sovietskaya Rossiya - and was perhaps a little less frank plant was first built, are still

· Bad organisation. Three than it might have been because the wordy manager, Mr M.M. Budko, was sitting at new models - the Volgar, the VT100 and the VT200 - have been taken to prototype stage

the round table himself. Still, what emerged was e catalogue of horrors which, but languish there. The Volgar has been at that stage for 10

years. • Lack of funds. The Agricul-tural Machine-Building Ministhough described as worse than at other similar plants, still speaks volumes about the problems of Soviet industry. try has promised reconstruction, but never delivered it. Mr A.V. Posanov, a worker in the plant who was also a delegate to the 19th party conference

earlier this year and who emerges as something of an opponent of Mr Budko, says he asked to see the minister while at the conference but did not

get a hearing. • Inability to attract young, trained labour. Mr Budko com-

the in the

plained that the vast plant was Justice that the vast plant was usually 4,000 workers short, forcing him to employ unsid-lad ex-convicts. Specialists were shunted about the plant to fill gaps in the lines, and most months saw overtime worked every Saturday, and

• Wage rates are uncompetitiva with the co-opera-tives - an early sign that this much-boosted but still small

only five or six roubles a administration – as workers month more per worker than generally have been told to do the brigade which does only 90 by the national leadership. Per cent. The Sovietskaya Rossiya cor-respondent chairing the round tichants at the discussion) is toble commonter in the source of the par-

The Sovietskaya Rossiya cor-respondent chairing the round tabla commants in an after-word that the management is not doing its ich

to discuss the half yearly pro-gress some weeks ago lasted three bours, half of which was takan np by Mr Budko's speech. It was, on his account, highly defensive, dealt with no substantive issues and told the

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not, it seems, to encourage more self-management, as is the present trend encouraged by politicians and the media.

PINANCIAL TIMES, USPS No. 190640, published daily except Sundaya and holidaya. 'US subarniption rates 356530 per annum. Second class post-age and at New York NY and at addi-tional mailing offices. POSTMASTER, seed address obsage to: FINANCIAL TIMES, 14 East 60th Street, New York, NY 10072. Instead, he says, the ministries and the local party and soviets must take the matter in hand - a reliance on the old command mechanisms which have allowed the flower of Soviet

NY 10022. 

substantive issues and told the tractor building to get into this workers not to criticise the state in the first place. 

sector is causing problems for tha state enterprises. Bonuses for overfulfilling norms are tiny – a brigade which does .120 per cent of the norm gets

not doing its job. A gathering of the workers

### **OVERSEAS NEWS**

#### Afghan guerrillas Chinese get senior Hong quarrel over fate Kong jobs of besieged city By John Elliott in Hong Kong

jn.

#### By Christina Lamb in Islamabae

Afghan guerrillas after the death of President Zia nl-Haq of Pakistan, their staunchest ally, has provoked an all-out fight between resistance lead-ers over control of the southern city of Kandshar. Mr Gulbuddin Hekmatyar, the fundamentics leader has

the fundamentalist leader, has gone there personally in an apparent attempt to sabotage negotiations between moderate resistance commanders and the Kabul regime aimed at end-ing the fashing ing the fighting.

Four posts around the city have recently fallen. Now only desperate man." The Pakistan intelligence the airport and military posts in the town centre remain under regime control and the city which is under siege seems on the verge of falling. Any military attack would result in widespread casualties, civilians having refused to leave the town. Most muja-hadin would prefer to win the city through political not military means.

● A Soviet spokesman yester-day acknowledged Moscow had sent military aircraft from Soviet territory to defend the Afghan town of Kunduz, Res-Kandahar is traditionally a royalist stronghold. Fundamentallsts for that if the moder-ates gained control they may set up their own government and bring back the former King Zahir Shah. Moderate Gennady Gerasimov said rebel forces had destroyed much of rs claim that Mr Hekmatyar hopes to take the town, enabling the unpopular interim Kunduz and taken 200 women from the city before it was recaptured by Afghan troops. government, over which he has

UNCERTAINTIES among almost total influence, to move Mr Hekmatvar is unlikely to

hold on top jobs in Hong Kong's Government following a reshuffle of posts announced this week for implementation ar nexusity is infikely to be able to secure a military vio-tory in Kandahar. He has few men in south west Afghanistan and with Gen Zia's death has lost his most powerful backer. Mr Asim Nasser Zia of the during the next few months.

Mr John Chan Cho-chak, 45, deputy chief secretary, who is a front runner to be the terri-tory's first local financial sec-retary and chief secretary in a moderate party NIFA described Mr Hekmatyar's move as a "suicide mission," while Mr Hamid Karray of ANLS, another moderate party says "with Zia'a death Hekmatyar retary and chief secretary in a few years' time, has been sunounced as secretary for trade and industry. He suc-ceeds Mr Hamish Macleod, 48, who becomes deputy financial secretary and is seen as a can-didate; to succeed Mr Piers Jacob when he retires as finan-cial secretary next wear. has become an orphan. He is a

agency, ISI, which oversees arms distribution to the resis-Jacob when he retires as finan-cial secretary next year. Mr Chan's jnb, which involves handling Hong Kong's planned political reforms, is being taken over by Mr Michael Suen Ming-yeung, 44, at present regional secretary for the New Territo-ries. Two other secretaries' posts are being taken over by local civil servants. tance, is believed to be backing Mr Hekmatyar in his attempts. ISI is already being blamed for "allowing foreign hands to pen-etrate Pakistan's inner-most security defences". An ISI offi-cial said: "We are as much in need of a victory in Kandahar as Zia was, and Hekmatyar is our man."

• Six Chinese crew mem-bers were killed yesterday morning when a Trident air-liner of the Civil Aviation Administration of China crashed in poor vishility into the harbour alongside Hong Kong's Kai Tak airport.

# Asian immigration issue divides Australia

Chris Sherwell reports on a groundswell of opinion against cosmopolitan tolerance

broad support.

A NEW generation of high flying Chinese civil servants in their 40s has strengthened its body politic, disturbing the psyche of whole sectors of the country's 16m population. The issue is immigration: specifically Asian immigration. And it is sensitive enough to divide

It is sensitive enough to divise the country. It has already opened a split within the opposition Liberal Party, which with its National Party coalition partner has made most of the running on the former A concerned by Rob the issue. A concerned Mr Bob Hawke, the Labor Prime Minister, has beefed up the post of Immigration Minister.

Immigration Minister. Opinion polls show huge majorities in favour of slowing down Asian immigration, and the spectre of racism looms. Slogans such as "Asians out" can be seen on roadside rocks up the New South Wales coast. Talk-back radio shows confirm the sentiment. One well-known the sentiment. One well-known commentator's car was daubed with a swastika after he attacked the coalition view.

Among local Vietnamese, Chinese and Japanese there is deepening anxiety about the debate. Abroad Mr Lee Kuan Yew, Prime Minister of Singapore, has said it threatens Aus-

> not new as a political issue in Australia. A hundred years ago the New South Wales govern-ment tried to prevent the land-ing of Chinese immigrants.

later became a commonplace. In the 35 years following the Second World War, millions of Service work war, minute in Europeans streamed in. Up to half came from the UK and Ireland, reinforcing the domi-nance of Anglo-Celtic peoples in Australia. For much of this period, other Europeans were

the victims of prejudice. Latterly, the proportion of Asian immigrants bas increased markedly, to above 30 per cent of the annual influx. But overall the num-bers remain tiny: on one calcu-lation they will comprise less than 19 per cent of the popula-tion until far into the 21st century. Over the past two decades, both sides of politics have

adopted a bipartisan position on immigration and promoted "multiculturalism" - in effect, a tolerant, cosmopolitan Aus-

Tralia. Yet in the space of a few munths the Liberal and National parties have called it into question. "One Australia" is what they now stand for, and "social cohesion". The trouble is, everybody is readleader, began advocating an increase in skilled and husiing more into it. That the subject surfaced as a public issue was perhaps inevitable. A specially-commisness migration.

Over subsequent weeks, Mr Howard began rejecting multisioned government inquiry on immigration headed by Mr Stephen Fitzgerald, former culturalism as aimless and divisive, saying it should be changed. Having made immigratinn a political issue, he took it a critical stage further ambassadar to China, pub-lished its findings in May, and

IKE A swelling boil, an The White Australia policy it criticised existing policies. infectious issue has re- later became a commonplace. It said current selection surfaced on Australia's In the 35 years following the mechanisms would produce tens of thousands more immi grants than the planned pro-gramme, and that there was insufficient attention given to potential migrants' labour mar-ket skills and business talents. More importantly, it warned that public support for immigratinn was threatened by widespread mistrust and fail-ing consensus. The immigration programme was not identi-fied in the public mind with the national interest, it said the national interest, it sain. Such suggestions were like manna for the opposition. Hav-ing seen the Labor Govern-ment steal its economic poli-

culated comment about Asian immigration. If the level of Asian immigra-

tion was too great "in the eyes of some in the community," he said. "it would be in our immediate term interests and sup-portive of social cohesion if it were slowed down a little so that the capacity of the community th absorb were greater.'

earlier this month with a cal-

The result was raging argu-ment. Some pointed nut that a greater emphasis on business and labour skills would actually entail more Asian immigrants. The apposition was accused of being racist and wanting a discriminatory immigration selection policy. The real trouble came when two senior National Party lead-

cies, this was an issue which would distinguish the coalition from the Government and find ers explicitly urged curbs on Asian immigration and suf-fered no reprimand. For those "small I" Liberals content with twn decades of hipartisanship with Labor, it was too much. The coalition had not yet fin-bload its immigration plat Before the report's publi-cation, opposition fig-ures began talking more about the issue, saying in par-ticular that the "cultural com-patihility" of migrants should be taken more into account. Mr Juhn Huward, the Liberal before began advocating a alised its immigration platform, and they spoke out inndly. As the Liberal Party

began tearing itself npart, the issue looked like backfiring, and Mr Howard banned further public statements.

Labor, baving held back in the bope that the issue might bring down Mr Howard, began exploiting the strains, Prime' Minister Bob Hawke said any discriminatory policy would be

nomically insane". The coalition finally confirmed its new position this week – different from Labor's, but a compromise the opposi-tion can apparently live with. Any government, it said, "must reserve the victor from

"must reserve the right from time to time to vary and alter policy, including adjustments to the size and composition of the immigration programme in response to changing require-

"morally repugnant and eco-

ments, be they social, eco-nomic, political or humanitar-ian". At the same time it declared that it would select people for immigration to Aus-tralia "regardless of race, religion or nrigin".

To test the opposition, Labor on Thursday put forward a <u>matherhood motion in both</u> hnuses of parliament calling for a commitment that "race or ethnic nrigin shall never, explicitly or implicitly, be among" the criteria to deter-mine the composition of the minerate inclusion migrant intake

Mr Hnward let it go th a vote, and Labor pulled in handsome haul of three Liberal MPs and nne Senator who crossed the floor. Two others abstained. Today the Liberals and Nationals insist all is well, and are standing their ground. But Australia's politicians

have a tiger by the tail. No one cares to predict where it will take them, or for that matter the country.

# **Press law outrages Indian opposition**

By K.K. Sharma in New Delhi

THE Indian Government ment is believed to have lost yesterday came under fire from opposition parties, constitu-tional experts and journalists for legislation rushed through parliament this week which is seen as an attempt to muzzle newspaper reporting on corruption

The legislation seeks to jail and fine journalists who are guilty of an "aggravated form of defamation". Its critics claim it is intended to silence newspapers and deter them from publishing investigative reports

Such reports have seriously embarrassed the Government, for the past two years. They have been published by a number of national newspapers. after painstaking investigation into allegations of payoffs and kickbacks in defence and other

deals with foreign companies.

considerable support as a result of the allegations in the past two years. People close to the Prime Minister whose names have been included in the reports has been gravely

ter writes from Moscow. Mr

The defamation bill was rushed through the lower house of parliament late on Tuesday. Mr P. Chidambaram, Minister of State for Home Affairs, maintained that it was meant to preserve and promote truth. He also said it would raise the level of political debate in the country and curb vested interests who were using newspapers to make insignations.

insinuations. Showing a rare -unanimity, all the leading national news-papers yesterday published edi-torials attacking what the Times of India called a "Draco-nian bill". The Times particu-

# FLY HIGH AND LOOK FORWARD TO A BONUS.

- the Reality of the second

and the state of the

tralia's standing in Asia. Of course, immigration is

alleged there were payoffs in the \$1.4bn contract for howit-zers from Bofors of Sweden and in a deal for the purchase of German submarines and, in our recently, payment of ille-gal commissions by Sumitomo of Japan in a pipeline deal with the government-owned Oil and Natural Gas Commission. Mr Rajiv Gandhi's Governlarly criticised the definition in the bill of any "imputation" about a person as defamatory if it is intended to harm the reputation of a person or if the publisher has reason to believe that it could cause harm. "Even worse, it puts the onus of proof that no defamation was caused upon the accused,' the newspaper said.

#### **UN chief seeks** Iran-Irag talks chairman

#### By Andrew Gowers in Geneva

MR Javier Perez de Cuellar, the United Nationa Secretary-General plans today to appoint a special representative to pursue his laborious mediation efforts between fran and Iraq, which remained stalled for much of yesterday over an Iraqi demand for guarantees of freedom of navigation.

of freedom of navigation. The increasingly frustrated Secretary-General was hoping to relaunch ministerial talks last night with a delicate compromise attempting to balance iraq's concerns about navigation with Iran's desire for a withdrawal of Iraqi troopa from its territory.

Mr Tariq Aziz, Iraqi Foreign Minister, is demanding that iran abandon its right under international law to search Iraqi shipping in the Gulf while a formal state of belligerency continues. He also wants an assurance that Iran will not block clearance of the disputed Shatt al-Arab waterway.

Mr Perez de Cuellar would like to suspend negotiations and resume them in two or three weeks, presumably under the chairmanship of his special representative.

#### General strike called for across Burma By Richard Gourlay in Bangkok

BURMESE opposition groups have called for nationwide general strikes and big demonstrations again today, to add to the pressure on the one-party government for a retarn to democracy, diplomats in

Rangoon said. Broadcast vans moved freely broadcast vans moven neery through streets abandoned by the army and police announc-ing the action, while students and monks continued the marches through Rangoon that have helped bring the 26-year regime to the brink of collapse. Armed soldiers loyal to Gen

Armed soldiers loyal to Gen Ne Win, Burma's key military and socialist party leader, have tried to break a strike at the country's biggest oil refi-nery at Syriam which has led to scarce fuel supplies. The soldiers searched sub-urbs of Syriam for engineers to restart the refinery but failed, diplomats said. If Na, who led the last civil-

I much, diplomats said. U Nu, who led the last civil-ian government until Gen Ne Win seized power in 1962, told Reuters he would announce today whether he would lead the opposition alliance that was formed on Monday was formed on Monday.

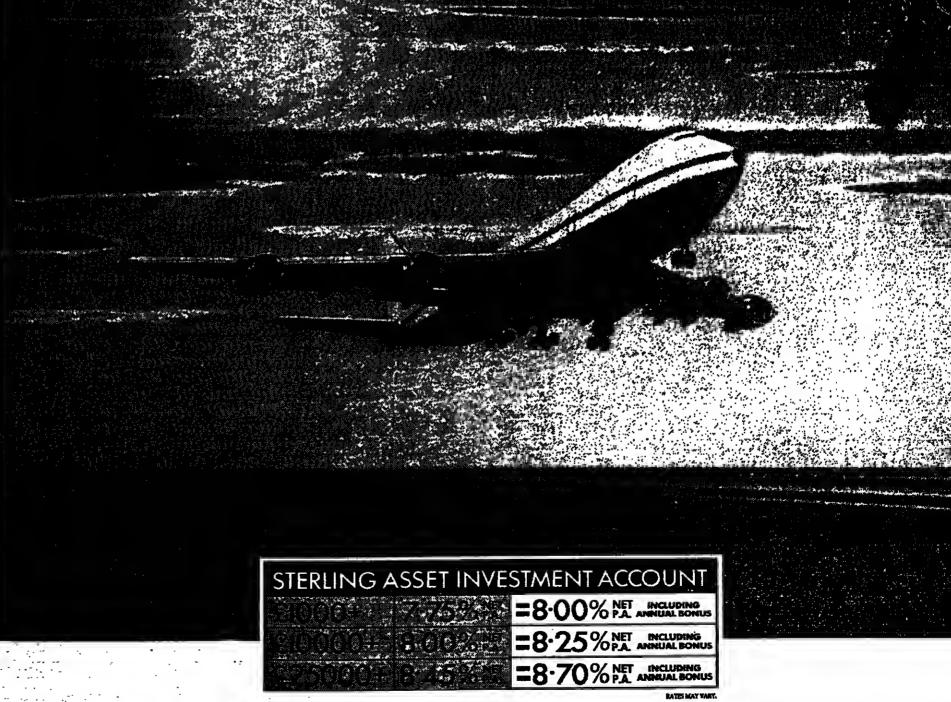
# S African churches' HQ bombed

#### By Jim Jones in Johannesburg

A BOMB explosion severely damaged Khotso House, the central Johannesburg building housing the offices of the South African Council of Churches and other leading anti-apartheid and human initiality in the early hours of yesterday. The blast injured 28 people, in the densely populated, multi-racial distribution city neighbourhood.

The police have said it is pre-mature to speculate on links -between the explosion and

another which destroyed the nearby office building of Cos-atu (Congress of South African Trade Unions) over a year ago. A recent fire set by arsonists gutted the Johannesburg offices of the Transport and General Workers' Union. The police have not .yet apprehended those respons for any of the earlier attacks. Mr Frank Meintlies, Cosatu's information officer, believes it milikely the bombers would be brought to justice.



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your local branch TABBEY about Sterling Asset. IN NATIONAL

### Ecuador aims to build up reserves

#### By Sarita Kendall in Quito

ECUADOR'S new government has announced an emergency plan as the first stage towards putting the economy in order and reducing inflation from 60

to 30 per cent. Outlining the most impor tant measures, Mr Abeiardo Pachamo, head of the Mone-tary Board, said the crisis was much worse than the Government had imagined, and the outgoing administration had manipulated central bank fig-ures to cover up the fact that Ecuador has no foreign

reserves. The central bank sucre has been devalued from 250 to 390 sucres to the dollar. This exchange rate will apply to all private export transactions which have been moved back into the central bank. Gradual devaluation will

continue, at 2.50 sucres e week, the equivalent of about 30 per cent a year. The free market has been swinging between 500 and 550 to the dollar in recent weeks, so there is still a substantial gap between the two rates.

Vehicle imports have been prohibited and capital goods can only be purchased if they have financing from multinational organisations. Prior deposits have also been reinstated for a short time.

The Government hopes to save \$450m hy reducing imports and in addition, 10 per cent of private export income will go towards strengthening central bank reserves. To cut the public sector's budget defi-cit, now running at about 16 per cent of Gross Domestic Product, the Government has doubled ordinary petrol prices and raised electricity tariffs.

The emergency plan includes a series of measures to cushion austerity: the prices of some foodstuffs have been frozen and new employment, health and other social programmes are to be introduced. A small wage increase will be financed by taxes including tax on ciga marginal decline in the first quarter. Outlays on durable items such as trucks, house-hold appliances and home entertainment equipment

Although the measures are expected to be criticised by both left and right, indepen-dent economists recognise that the Government has shown courage by adopting politically unpopular but necessary poli-

RGENTINE political life is packed with rich delights hnt perhaps none quite so visibly Byzantine as the affection which Mr Caras the anection which Mr Car-los Menem, the Peronist presi-dential candidate, has discov-ered in himself for Mr Rodolfo Terragno, the Minister of Pub-lic Works. There seems little common

ground between an old-styla union-backed Peronist (Mr Menem) and a free-floating, former journalist turned publishing entrepreneur who now works for the Radical Party government (Mr Terragno). Last week they both attended the caremonial open-

ing of a domestic water supply for residents of a district in the province of La Rioja, of which Mr Menem is governor. With unprecedented warmth, Mr Menem described "my friend Terragno" as "a talented man" who is trying against impossi-ble odds to achieve development and growth in Argentina's economy. Mr Terragno expressed similar delight at being in the company of Mr Menem. Like adoring adoles-cents they agreed that, while they have differences, their love is true.

By David Owen in Toronto

THE Canadian economy

continues to grow at a rapid clip, with the country's infla-

tion-adjusted gross domestic

product rising at an annual rate of 4 per cent in the second

quarter, according to Statistics Canada figures. This compares with a first quarter increase of

The Canadian economy has

now enjoyed five-azd-a-half

years of uninterrupted growth

Demand growth strength-ened in the latest period, as

personal expenditure on goods and services advanced a

healthy 0.9 per cent following a

increased particularly rapidly,

in contrast to purchases of clothing and footwear which

since the 1982 recession

3.2 per cent.

The altered atmosphere

**GDP** rise of 4% reinforces

remained relatively weak.

Business investment in plant and equipment continued to

and equipment continued to grow rapidly, with husiness outlays advancing a full 4 per cent over the quarter and 20.6 per cent from a year ago.

import volumes rose by a sub-stantial 4.4 per cent, account-

ing for more than half of over-

all demand growth. The country's current account deficit rose sharply to a seasonally adjusted C\$2.3bm (£1.1bn) in the second quarter,

however, up from C\$1.70a in the preceding period. This was despite a 22 per cent improve-

ment in the merchandise trade

surplus to C\$2.8 bn, on the

back of strong sales of wheat, automobiles and chemicals.

The deterioration was explained by the deficit on non-merchandise transactions, which widened by a sharp

C\$1.2bn to C\$5.1bn. This was

growth trend in Canada



might appear to signal a remarkable return to consen-sus politics in Argentina, con-sidering that trade unionist Terragno with the most rotten vegetables and, in one inci-dent, a second-hand tollet. Considering also that Mr Terragno's schemes to sell off large chunks of Argentine supporters of Mr Menem amused themselves only two months ago by inventing a new state-owned and financially national sport; who can hit Mr broke industry is - or has

receipts

since 1982.

adian dollar.

Cat

Rodolfo Terragno (left) has won the support of opposition party candidate Carlos Menem been - utterly loathed by the

AMERICAN NEWS

Argentine politics takes on a visibly Byzantine air

Peromists (whose hero, the late General Peron, set the whole state machine rolling in the first place), the whole affair becomes almost inexplicable. But not quite. The explanation lies in Scan-

dinavia. Money speaks louder than party allegiance in Argen-tine politics, and these days there's an awful lot of money floating around the deals Mr Terragno is trying to clinch with regard to Argentina's national airline, Aerolineas, and its telephone system. and its telephone system, Entel.

He claims to have sold 40 per cent of the former to Scandina-vian Air Systems (SAS), for vian Air Systems (SAS), for \$204m (though that figure is disputed by those close to the deal); and he hopes to persuade the Spanish telephone com-pany Telefonica to help him out with Entel. Both Entel and Aerolineas badly need investment and professional management, but the Peromist notion until now

the Peronist position until now has been that Mr Terragno is simply interested in selling the country to nasty foreigners. Mr Menem's supporters in Congress have even accused Mr Terragno of shady deals in the two ventures. The Peronists have threat-

ened to prevent both deals from passing through Con-gress, where, in the Senate, they have a majority. The Rad-ical Party Government needs to achieve success with both SAS and Telefonica to demonstroke

Gary Mead describes the case of the Peronist and the Radical with nice things to say about each other strate to the nation that it has some reason to vote for the Radicals in the 1989 presiden-tial election. Until now informed observers have cast doubt on either of the two deals ever getting past Peronist senators.

But the Peronists, who are riding high in the opinion polls and confident of victory in 1989, are relaxing their view of 1989, are relating their view of Mr Terragno'a semi-privatisa-tion schemes. Their thinking is that if they are going to win anyway, why make a political issue out of economic changes which might actually bring some much needed capital into useless state enterprises?

They can hardly afford to back down from their clearly atsted public position that the deal stinks. It only needs the absence of a few Peronist senators when the for-mal SAS-Aerolineas debate takes place to ensure its rela-tively calm nessen.

A new Argentine joke, sadly without its punchline: How much does an influenza virus cost which can lay low half a down Durnnit emptions at one dozen Peropist senators at one

**PRI** move renews election dispute By David Gardner in

whets

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

**Mexico City** 

A. NEW electoral row has erupted between Mexico's rul-ing Institutional Revolutionary Party (FRI) and the opposition as both sides gathered in Con-gress for President Miguel de la Madrid's final state of the union address today. Early yesterday the FRI allo-cated itself more seats in Con-gress than it would seem enti-tled to. It thereby reached the majority of 20 seats it ohvi-ously feels is the minimum safety margin it needs to ratify its candidate. Fir Carlos Sali-A.NEW electoral row has

its candidate, Mr Carlos Sali-nas de Gortari, when Congress comes to vote on the results of

July's presidential election. PRI deputies overrode the multi-party commission charged with apportioning the 20 proportional representation seats of the 500-member Con-gress, which now becomes constituted as the full electoral college. At the beginning of the week, in complex horse-trading designed partially to under-mine opposition claims of bal-lot-rigging, the PRI "conceded" lot-rigging, the PRI "conceded" 13 first-past-the-post seats in areas where electoral fraud was most patent. They then took back the same number of seats from the proportional representation allocation. But they did not subtract the votes they conceded they had not won in the first group of seats, and left their percentage of the congressional water at 52 per congressional votes at 52 per

Cent. This guarantees them 250. This guarantees them, 250, seats, against 240 for the com-bined opposition, when the rul-ing party would have ended up with 251 to 255 seats had the arithmetic been modified.

Throughout the complex and politically charged post-elec-toral process the PRI has used its dominance of all electoral anthorities to impose its own interpretation of four different bothes of law which hear on bodies of law which bear on the disputed results. But now, even by the most legalistic interpretation, it appears to have broken the law. This will have broken the law, This will further undermine the credibil-ity of Mr Salinas's victory, when it is steamrollered through by the dublously con-structed PBI inajority, proba-bly by September 9, and makes it virtually certain that the competition will not recomise opposition will not recognise hun as President.

# Argentina obtains pledge of **\$750m loan from World Bank** By Gary Mead in Buenos Aires

due principally to a significant A WORLD BANK delegation has left Argentine after spend-ing almost three weeks in the contraction in dividend country, with the promise, according to Argentine gov-ernment officials, of a loan of In the capital account, nonresidents continue to invest heavily in Canadian interest bearing instruments. In the lat-

est quarter, such investments totalled a net C\$7.8bn, of which At the same time a delega tion from the International Monetary Fand is due to C\$4.4bn was in bonds and the balance in money market instruments. During this period, the buoyant Canadian dollar reached its highest level against its US counterpart arrive this week to discuss Argentina's request for a new stand-by loan of \$1.2bn. Argen-tina's foreign debt currently stands at \$56bn, with repay-ments this year in the region While the fact that second

of \$5bn. Discussions with the IMP for quarter growth increased in the face of higher interest rates a fresh loan have been in proglast spring gives ground for optimism, the country's export-orientated resource ress for more than two months. It is thought that any new loan is unlikely to be: for growth in recent months - are now beginning to feel anthorised before the next general meeting of the IMF, due to be held in Berlin at the end of September. Argentina is also hoping that it can perthe pinch from the revitalised

loan has yet to be confirmed. At the same time Mr Maris Brodersolm, the Argentine Treasury Minister, recently returned from a visit from Japan where it is understood

take a close look at the mixed preliminary results of the new

economic pian launched by the Argentine government at the beginning of Angust. The mea-sures were designed to halt a spiralling inflation rate of 25 per cent (in July) and tackle public sector spending which; officially, wastes at least \$2bn ding which;

annually. Argentina's current wave of strikes and the success of some powerfal trade unions in achieving wage increases above inflationary levels will give the IMF cause for concern over any new agreement for fresh fluancing. It will also be interested to learn details of various banking and financial scandals, currently causing interest in Argentina. The most prominent concerns the Banco Bipotecario, a state run mortgage bank which alleg-

edly has failed to ablie by nor-mal banking regulations over loans made to individuals.

suade its commercial bank creditors to extend fresh loan of up to \$20m. of up to \$20m. The loans from the World Bank have yet to be anthor-ised. They are reportedly intended for reform of the banking and foreign trade sec-tors of the Argentine economy. At the beginning of August the US indicated its willing-mess to extend a bridging loan of \$500m to Argentina, con-

of \$500m to Argentina, com-ciding with a visit hy Mr George Shuliz, the US Secre-tary of State. That hridging

he sought a losm in the region of \$1bn. The IMF will undoubtedly

#### WORLD TRADE NEWS

#### Holden's takes up fight with Ford for arms sales Australian market By Gary Mead in Buenos Aires ARGENTINA is supplying Iran

#### By Chris Sherwell in Sydney

HOLDEN'S, long synonymous with car manufacture in Australia, launches a new large car today in a battle with Ford that will determine the company's future identity. The car is the VN Commo-

dore, based on Opel's largemodel cars and powered by an Australian-made 3.8-litre V-6 engine. It has been five years in the making, and represents an investment of A\$360m (£180m). Its opponent in this Austra-

lian "Car Wars" is Ford's suc-cessful EA Falcon, launched earlier this year and even more Australian in its design and engineering.

The outcome is important for Holden's because the com-pany is trying desperately to ensure its future after s dis trous performance over ths past decade.

Originally e saddlery com-pany, Holden's fell to General Motors of the US during the Great Depression, and as its cars rose to become "Austra-lia's Own", the company became the best-known in the southern hemisphere. But a fateful decision in the

late 1970s not to press ahead with a new Kingswood, its large family car, left the way open to the Falcon. Holden's lost its long-cherished title of Australia's largest carmaker to Ford, and within five years

By Nancy Dunne in Washington

USX is to sell 80,000 tonnes of tubular steel products to the Soviet Union, a deal believed to be the company's largest sala ever to the Soviets. The sale, announced yester-day, is the first by the com-pany to the Soviet Union since the early 1970s. It was con-cluded between United States Steel International, the wholly owned subsidiary of USX, and

owned subsidiary of USX, and Promsyrioimport, the Soviet

Union's export import agency for metals and minerals.

been announced, but the com-

pany said it is expected to

The value of the deal has not

**USX wins steel products** 

order from Soviet Union

with a large quantity of arms. Mr Jorge Carnelli, head of Argentina's state-owned arms accumulated losses of A\$430m. At the end of 1986, an exas-perated General Motors industry has confirmed that a 10-wagon train left Cordoba stumped np A\$780m to pay off the company's debts and split it into two. The successful engine company was hived off, and last year the carmaking arm, Holden's Motor Company, announced a joint venture arrangement with Toyota of

is thought to include rifles, mortars, personnel transport and munitions, estimated to be Under the arrangement, Toyota will snpply Holden's with two of its medium-sized

worth \$120m. The Argentine Ministry of Defence confirmed the arms delivery but did not go into details. It said the shipment models to be sold under Holden "complies with previously signed contracts" and that "it is not customary to inform the badges, and in turn will receive the new Commodore, public of external arms deliveries" Mr Carnelli said the delivery

Analysts say a failure by the Commodore would prompt Toyota to seek a bigger role in the joint venture, with the aim was the last of a series due under contracts signed with Iran, and that Argentins had of supplying the next large car. That in turn would mark Holden's denouement. contracts with Iran but not Iraq. He said the operation was perfectly normal and that he did not understand why

The VN Commodore caters to Australian tastes in being wide and having a large lug-gage space. Significantly larger than all the previous Commo-dore models, it has smooth European styling and, according to the company, offers an improved ride and better han-

Mr John Bagshaw, Holden's maneging director, said the Commodore had used the lat-est technology and met market expectations in terms of need, price and quality.

export about half the amount in the fourth quarter of this year and an equal amount in the first quarter of 1989.

USX said that it expected the deal would be just the first in "a continuing business rela-tionship." If so, it would cut market share of Japan and West Germany which have

been selling large quantities of tubular steel to the Soviet

The sale is the latest indica-

tion of a new competitiveness

in US steel exports, spurred by the weaker dollar.

Union in recent years.

#### Yugoslav 'trade broker' bridles at red tape Argentina in \$120m Iran Judy Dempsey in Ljubljana meets a fledgling entrepreneur

larly in the transfer of technol-M ILAN Lovrencic, a former banker in Liu-hijana, jumped at the

opportunity of setting up his own business when the Yugo-slav republic of Slovenia lifted restrictions on private enterprise in January 1986.

The aim was to allow entrepreneurial-minded people to last week for shipment to Iran. break away from the socialist economy. In particular, the anthorities hoped to expand the mnch-neglected services No official statements have been made concerning the precise nature of the arms, but it sector. But Mr Lovrencic believes the new regulations are marred hy bureaucracy and unreasonably high rates of income tax and thus hinder trade.

Under the law, Mr Lovrencic is allowed to employ no more than five people. "That's the rule for 'selling intellectual property," he says, adding that he has enough work for at

least 20 people. Mr Lovrencic is a financial consultant, dealing particu-

His main work is finding customers for his clients. "If my contacts in West Germany want to sell machinery or

goods to somebody in Yugo-slavia, it is up to me to find them the partner," he explains. So far, he has had few problems finding such partners. His turnover itself indicates his success. This year he expects it to reach 300m Yugoslav dinars. But his real problem lies with

the foreign exchange system. For any small business, and for that matter, state-run saterprises, foreign trade transactions have to go through a foreign trade organi-sation (FTO). This means Mr Lovrencic is not allowed to use hard currency; he can only be paid in dinars and all transac-tions must be go through the bank or a FTO.

With inflation running at 170 per cent a year and several

time.

devaluations of the dinar, Mr in Yugoslavia, the network of But there are increasing contacts and family connec- signa, at least in Slovenia, that tions are crucial components this may change. Mr Lovren-Vugoslav dinar, once a fairly for sealing a trade deal, Above clc, for instance, is at present tions are crucial components for sealing a trade deal. Above all, several Yugoslav businessa great treat, Furthermote, the Yugoslav dhar, once a fairly strong currency in the 1960s and early 1970s, is no longer, able to huy, at reasonable prices, western technology, and especially information men resort to setting up "com-panies" in West Germany in order to retain their hard currency earnings. The strict control of hard "Ws can buy it but it takes a corrency is but one inhibiting

lot of dinars and we are severely restricted in the amount of hard currency earneral Slovenian economists now believe trade with the West ings and savings we can take out of the country," says Mr and with the rest of Yugoslavia could rise significantly if enter-prises were allowed to raise Lovrencic. capital. The present cumbersome system does not allow enter-

Such a system has inevitably meant that thousands of enter-prising Yugoslavs working in West Germany and neighbour-ing Austria have become important as middle men. If they have the energy to deal with Yugoslav enterprises, they often try to circumvent the red tape and the maze of legislation

And like those who remain economy and political system. looking into raising private capital for Rogaska Slatina, the internationally-famous spa in Slovenia.

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COLOR POSTORESIAN

The spa is owned by the state but is respected for its good management. Yet it needs substantial capital investment. And instead of looking to the banks, the management is con-sidering the private investor.

Nobody knows how this will Allocit the ownership of the spa and if the state will relinquish its monopoly. But both Mr Lov-rencic, who has already a list of interested investors, as well as other Slovene economists. believe that if such an idea gets off the ground, Slovenia could become a valuable testing ground for the private investor and in looking at new ways to boost trade.

Taiwan's shoemakers seek foothold abroad

such sales needed to be sur-rounded by "sensationalism". Argentina is a relatively Lower costs are leading the island's shoe industry to set up overseas, says Bob King

small arms exporter. Neverthe-less, it wants to expand its share of the world market, THE drive by Taiwan shoemakers over the another to set up man-ufacturing operations in south-east Asia and China has been interpreted as the beginparticularly in the field of air-craft and armoured vehicles. It is looking for a Middle East buyer for its tank, the TAM. Last month a planned sale of 56 Tam tanks and 18 ning of the end of the industry in Taiwan. But nothing could be further from the truth. The personnel carriers to Ecuador, valued at \$108m, fell through increasing Talwanese presence in countries such as Indonesia, Thailand, and China represents when the Ecuador Defence Ministry called off the deal for an extension, rather than a removal, of Taiwan's shoemak-

economic reasons. Taiwan plans to cut more import tariffs

developed parts of the region, where costs are lower and manpower is plentiful – while still maintaining facilities in Taiwan to produce higher-end shoes. There has even been a back-flow of sorts: the move offshore, prompted largely by foreign buyers who guaranteed orders if Taiwan manufactur-ers set up in less-costly coun-Planning and Development said the cuts would halp tries, has been blunted by the inability of factories elsewhere to produce aboes to quality

been forced to return their orders to Taiwan, where qual-ity and scheduling are more or ity and scheduling are more or less a constant, regardless of the higher price-points. The-vast majority of manufacturers cannot shift their production oversees, because such a move requires capital ontlays that few companies can afford. The Tripper Portgeer Manu-

The Taiwan Footwear Manufacturers' Association conser-vatively estimates that only about 20 companies - mostly those with healthy operations on the island - have set up on the Island – have set up facilities in south-east Asia. Sherwood, a manufacturer of Adidas sport shoes and that company'a exclusive distribu-tor in Taiwan, provides an example. Sherwood earlier this year invested 50m baht (£1.2m) in a state of the set manufacture in a state-of-the-art manufacturing facility near Bangkok, and plans to invest an additional 170m baht by 1990, when it expects to be turning out 25,000 pairs of sporting shoes a

The Theiland venture, called Oriental Sports Industries, is a completely new design using the latest in technology," says Mr Richard Rin, president

Shoe Exports US\$50 3 2 0 1982 83 84 85 86 87 Source: Taken Tinde Statistics

of Sherwood. "We've laid it out for high-efficiency throughput, and we're using new systems for sewing, and on the conveyor and cementing lines." The Sherwood venture, unlike other Theirsmore invert unlike other Taiwanese invest-ments, plans to source most of its components in Thailand, rather than importing them from Taiwan. Mr Bin says his Bangkok facility will produce some components, and he expects other Taiwanese component makers to set np in Thailand as well. The company

will also train about 275 Thai workers in Sherwood factories

in Taiwan so that the work-force will be well-versed in techniques and standards.

ctor on Slovenia's trade. Sev-

system does not and emer-prises to raise equity or seek private investors. And it is generally agreed that the intro-duction of such a system would have far-reaching conse-quences for socialist ownership

and workers' self-management, the two planks of the Yugoslav

"China connection" has grown over just the past year from shoestring: operations that involved "people who had busi-ness troubles here" to dozens of reputable companies which employ a variety of ploys to ensure their investments in China meet Taipei's demand that business with the main-land be conducted only indi-rectly. As a result, more and more Taiwan shoemakers are ventoring across the straits to profit from lower labour costs. Pagoda International, another Taiwanese company, has taken a slightly different tack. Vice-president Lanny tack. Vice-president Lanny Chang says the company has over the past year made arrangements with 11 factories in Indonesia to produce jogging shoes exclusively for Pagoda, and expects to ship 1.5m pairs worth \$6.6m from that country this year. Pagoda has managed to get around problems of qual-ity and delivery by employing Taiwanese and Indonesian Chi-nese managers to oversee their operations there. "But it's not like Taiwan - we still have to figure on more lead time," Ms Chang says. By the end of this year, 10 per cent of Taiwan's shoe man-ufacturers - as many as 100 companies - will be operating in Indonesia and Thailand, and will thus be able to circumvent Most believe that China's greater openness will allow them to regain profitability in lines that they can no longer afford to make in Taiwan - and that Taipei's greater

permissiveness regarding "peo-ple-to-people" contacts with "the other side" means they need no longer fear retribution from the euthorities. A deci-



this view: a judge rejected charges of sedition against a local businessman who had allegedly placed orders with Chinese factories by ruling that he had not sought to "help the enemy." He had, the court arch-rival in just about every field imaginable. Industry insiders say that Taiwan's said, "only been trying to make

ing operations. Manufacturers are increas-

TAIWAN plans to reduce tariffs on about 300 imported products as part of its attempt to narrow its trade imbalance with the West, Reuter reports from Taipei. The new cuts, some up to 50 per cent, cover heaters, air conditioners, chocolates, tele-phones, televisions, electric fans, refrigerators and washing machines. They have yet to be approved by the cabinet. The Council for Economic

Taiwan's re-entry to Gatt. Talwan last year reduced tariffs on 3,600 foreign goods.

Manufacturers are increas-ingly realising that the higher Taiwan dollar, rising wages, and a shortage of workers have made the production of low-and medium-grade footwear unprofitable here. So they are shifting their lower-end production to less developed nexts of the rector

standards and to deliver on Taiwan Thus, many buyers have





### **UK NEWS**

LIPRARY

1. 0 Juni

# Leading export markets expand in wool textiles

#### By Alice Rawathorn

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of the year. The wool industry, which is still concentrated in the traditional wool towns of Yorkshire

timal wool forms of Yorkshire and the Soottish Borders, relies on apports for nearly half its Last year wool textile to £598m, according to the exports increased by 7 per cent to £598m, according to the to £598m, according to the record of \$607m in 1985. National Wool Textile Export Corporation. The growth in sales was more rapid in the opening months of the year, but overseas demand weak, ened as the year progressed and the pound rose on the for-eign exchange markets. So far this year the industry has suffered a slowdown in sales to the US, where the strength of sterling has been eracerbated by the weakness of the dollar. But its main mar-isolated problems. The trend kets, Europe and the Far Fast.

kets, Europe and the Far Fast, have remained resilient. Exports to Europe, where

exchange rates are more competitive, rose by 13 per cent to 192m in the first six months of

DESPITE the strength of the year: starling, the British wool tex. Similarly sales to the Far tile industry saw the value of Kast have been buoyant. The its overseas sales rise by 3 per biggest Far Kastern market is cent to £313m in the first half Japan, where the huntry wor-of the year. stel cloths made by Huddens-field companies – such as Tay-lor & Lodge, John Foster and parts of the Allied Textiles

early isers and is now less sen-sitive to price pressure. The only vulnerable areas – acrylic spinning and hand knitting – are suffering from isolated problems. The trend towards more stylised, tailored clothing has reduced demand in het comments areas in both sectors. The acrylic spinners have also faced a

# MPs' report urges timetable for spending to reach 0.7% of GNP **Overseas aid 'should rise to UN target**

#### By Michael Cassell, Political Correspondent

BRITAIN should commit itself figure last year was 0.28 per to a fixed timetable for achieving the levels of overseas aid recommended by the UN, says a report published yesterday

Government to set a deadline by the House of Commons Forby which the UN recommended eign Affairs Committee. The report says thatfigure should be attained. No Conservative MPs supported although the Government is the recommendation, however, which was passed at a poorly-attended session of the com-mittee. Mr David Howell, the formally committed to reaching the UN target that overseas aid should represent 0.7 per committee's Conservative chairman, said that he did not cent of gross national product, spending on such programmes as a proportion of GNP has declined in recent years. The endorse the committee's call. The committee acknowl-

edges that this year's aid budget has risen by more than 3 per cent in real terms. It also accepts that ministers now cent, against 0.44 per cent 10 years earlier. The committee urges the

emphasise the high quality of British bilateral aid. MPs on the committee were also told that the UN target of 1 per cent of GNP for a combination of state and private sector aid had been exceeded by the UK in each of the past 12

years. They recommend even so that the aid budget should rise in line with the nation's increasing wealth, provided

that aid is almed properly towards investments which lead to economic development. The committee also highlights the comparatively low number of British commercial

69624

officers operating in Sonth East Asian and Pacific rim countries where, it claims, "short-sighted" undermanning threatens to deprive the UK of

a share of trade in some of the world's fastest-growing economies. The report also eriticises

Government policy of charging

full-cost fees to students from poorer countries studying in Britain. This also offers opporunities for expanding British trade, it says.

CLASS

Mr Howell said the committee would urge the Government to review its full-cost pol-

House of Commons Foreign Affairs Committee: Fourth Report on Expenditure by the Foreign and Commonwealth Office and the Overseas Development Administratio

The shortfall in American

this summer have traded down

Growth of retailers' | Tourist industries hit by sharp credit business slows slump in N American visitors

By David Churchill, Leisure Industries Correspondent

tion in May, compared with the same month last year, it still leaves the total level of visits tourists is hitting luxury hotels, restuarants, and thea-tres the hardest. Many of the American tourists in the UK from North Americans down by 3 per cent in the first half of

Tourism officials cite the to cheaper accommodation and problems of the weak US dollar in relation to sterling as the main cause of the shortfall. spend less in restaurants and on entertaining. However, there are also contin-ned fears of terrorism in In spite of the weakness of tourism from North America, Europe. Americans also appear the overall number of visitors reluctant to travel abroad dur-ing an election year. to the UK in June rose by 6 per cent compared with June 1987.

**Print union** prepares for change with Japan trip By John Gapper,

Labour Staff

LEADERS of the general print union Sogat '82 are to visit Japan next month to study innovations in printing tech-nology in an attempt to predict changes in working practices in the British printing indus-

Miss Brenda Dean, Sogat general scoretary, said she believed the visit by e group of senior negotiators would enable the union to react coherently to any changes in pre-press areas involving robot-

Sogat leaders made e similar visit to the US to study new technology in the newspaper industry in May 1985, just before the News International dispute during which 5,000 printers were sacked - and admitted at the time that the visit was five years too late. "There is a sea change com

ing in printing technology and we do not want to wait until we are in the middle of it, or the water is lapping around our ankles, said Miss Dean. The trip will include visits to

n variety of Japanese printing companies. The Sogat team will also cramine high definition television, and its possible use in magazine printing.

# surge of low cost imports from Turkey and Mexico. Hong Kong group to buy half share of new hotel

By Paul Cheeseright, Property Correspondent

Hotels, the Hong Kong com-pany, is to spend \$55m for a half share in the new London huxury hotel to be developed from the former St George's Hospital at Hyde Park Corner in London's West End. The 80-bedroom hotel will be

completed in 1990. The prop-erty's freehold is owned by the Duke of Westminister's Grosvenor Estate, while the leasehold is held by a joint venture company formed by Imry Mer-chant Developers of London and Bond Corporation of Austraha.

The hotel will be called the ... Peninsula, it was announced yesterday in Hong Kong. It will be operated by Hong Kong and Shanghai Hotele hanghai Hotels. Mr Martin Myers, Imry chief

HONG KONG and Shanghai executive, said: "We have Hotels, the Hong Kong com-pany, is to spend 255m for a hope to close the deal in the half share in the new London next four to aix weeks."

George's for which planning consent was given last year, involves two parallel projects - conversion to a hotel and building a 150,000 sq ft office block to the rear.

The hospital is a London landmark. It was designed in neo-Greek style by William Wilkins in 1826. Plans for the hotel include the restoration of the Wilkins facades.

The hospital closed in 1980, but redevelopment was held up by disputes over ownership and leases between Grosvenor Estate and Imry. These were settled in 1986.

which issue credit to custom ers using their own plastic card accounts. They have become a big competitor of credit card networks such as RCG.

### Building society repossessions fall

BUILDING societies took 9,180 ety loans in arrears for six properties into possession in the first six months of this year, 22 per cent less than in the corresponding period last months or more has also fallen, dropping by 3 per cent from 61,440 at the beginning of the year to 59,440. This is 0.6 per cent of all building society mortgage lend-ing. The number of loans over year, the Building Societies Association said yesterday,

writes David Barchard. Possessions are now at their lowest levels for three years. The number of building soci- year, at 13,150.

sumer credit excluding mort-gages. Outstanding credit grew by 18 per cent during the finan-cial year which ended in March, compared to 21 per cent in the premium uncer

Figures released yesterday hy the Department of Employ-ment show that some 6 per cent fewer visitors from North America came to the UK in The slowdown was the more striking because the number of credit accounts held with RCG June than in the same month last year.

Although this shortfall was less than the 13 per cent reduc-

**Disruption to** 

your **Postal Service** 

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Redevelopment of St

Access and Visa.

By David Barchard

SUGGESTIONS THAT cheap credit from retailers may have

been among the factors fuel-ling the consumer boom over

the past year were challenged yesterday when figures released by the Retail Credit Group showed that lending by its members slowed down

slightly over the last financial

**COMPANY NOTICES** 

Total credit borrowed by cus-tomers from the RCG's mem-bers who reached £112bn at the end of March. This was about 3 per cent of total con-

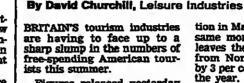
members rose rapidly last year, growing by 28 per cent to to a total of slightly under 7m. The finding surprised even the members of the RCG which held up their publication to As a result, the amount borheld up their publication to enable the figures to be researched further. The RCG is an association of the biggest retail groups, including the Burton Group, Dixons, Granada, Littlewoods, rowed per customer fell by 8 per cent, a real drop of 11 per cent when inflation is taken into account.

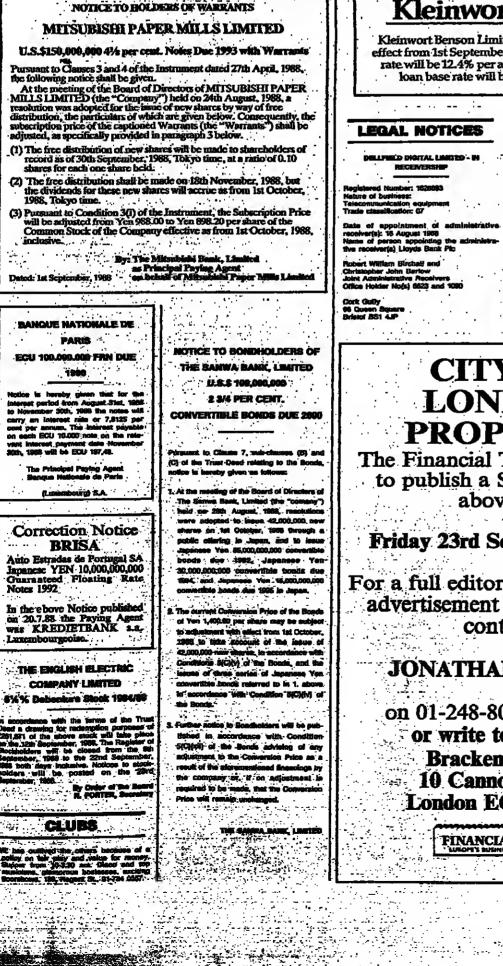
"These figures clearly under-mine any suggestion that retailers have been fuelling the credit boom," said Ms Eliza-beth Stanton, director of the Dizons, Granada, Littlewoods, Marks and Spencer, Next, Rumbelows, and Storehouse,

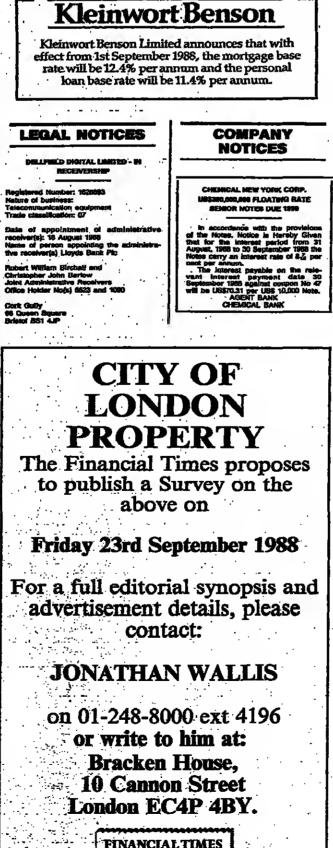
in the previous year.

"What seems to be happen ing is that people are becoming more responsible in using their store cards; they pay off their

balances on them a bit more quickly than previously. But the finding was unexpected and we don't entirely know what the reason is."







FINANCIAL TIMES

The Royal Mail regrets the major disruption to postal services and the inconvenience to our customers because of industrial action by the Union of **Communication Workers.** 

We are doing everything we can to restore a full postal service as soon as possible.

This unnecessary disruption is for the most astonishing of reasons – because we are paying MORE money to some of our new staff in London and the South East where we have a real problem attracting and holding on to new recruits. We need experienced people to protect the quality of service our customers expect and deserve.

The UCW opposes these payments and has refused our repeated appeals to return to the negotiating table - instead it called a 24-hour national strike.

We hope services will be back to normal shortly, but in the meantime if you need more up to date information on postal services in your area, please contact the Customer Care Unit shown in your local telephone directory under "Post Office."

😰 Royal Mail

# Joint venture to kick off US soccer drive

#### By Phillp Coggan

WCRS. the UK-based advertising agency, hes entered a joint venture to promote soccer in the US.

A company, USA Soccer Properties, has been formed by WCRS subsidiary Pascoe Nally International and C & W, a US group.

The well-known half of Pas-coe Nally is Mr Alan Pascoe, the former British Olympic hurdler; C & W's best-known name is Mr Phil Woosnam, the former Welsh soccer interna-

Mr Woosnam was involved in earlier attempts to promote soccer in the US, which achieved brief moments of suc-cess when stars like the Brazilian Pelé appeared for the New York Cosmos.

However, the North American Soccer League collapsed in 1985 and even indoor soccer, a version designed to produce more goals and more television

commercial breaks; is strug-

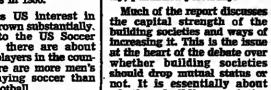
gling. Nevertheless, the WCRS ven-ture is blessed with some

encouraging omens. The US recently wou the right to host the World Cup in 1994. That will attract US media interest and also ensure that the US team qualifies for the final stages of the competi-

tion. The US team last qualified for the finals in 1950.

Grassroots US interest in soccer has grown substantially. According to the US Soccer Federation, there are about 15m soccer players in the coun-try and there are more men's colleges playing soccer than American football.

WCRS is providing financing of about \$2m (£1.2m) for the new company and believes it will have a turnover in excess of \$60m over the next six years.



whether building societies should drop mutual status or not. It is essentially about whether building societies need equity capital to grow. Most of the report will give heart to those building societies firmly committed to remaining mutual organisa-

tions

vision.

found ways to do this. Its message to those societ-ies contemplating conversion, however, remains stern. It says that they must not treat the operation of informing

members about the change as

"a marketing exercise" and that if they merely inform them about the benefits of

incorporation, permission to go ahead with it will be

Although the Commission

refused.

By Lynton McLain

Marshall said.

A DECISION on increasing

**Building** 

societies

'have duty

to tell all'

try, published yesterday.

By David Barchard

# **UK NEWS**



Postmen form a picket at a London sorting office

# Postal union leaders consider further disruptive action

#### By Michael Smith and Kevin Brow

LEADERS OF the UCW postal workers' union are to meet this afternoon to consider further industrial action after a 24hour strike yesterday by the majority of the Post Office's parcels and letters staff.

**Options** include overtime bans, working to rule and strikes by groups of key workrs. Mr Allen Slater, UCW execu-

The Commission says that almost all building societies will be able to meet interna-tional capital adequacy requirements for banks due to tive member, said an all-out strike could not be ruled out. This, however, is thought

requirements for banks due to come into force after 1992. The report suggests that all the leading building societies have capital ratios well above the minimum levels laid down by the Basle Committee on banking regulation and super-vicion Last night there was no sign of a thaw in relations between the union and the Post Office, who are in dispute over pay supplements for new recruits. There were no plans for talks. Mr Alan Tuffin, UCW gen-eral secretary, believes the Post Office is taking the first steps towards pay differentials. The Post Office said that yes-terder's attribute sourced external It says that the top 15 societies have risk-to-asset ratios averaging about 9.3 per cent and that the next 35 largest societies have even stronger ratios of about 11.4 per cent. The Commission goes on to terday's strike caused severe disruption and that the backsay that it is willing to conlog would take several days to clear.

However, it disputed claims hy the union that 99 per cent of the I40,000 members called out had supported the strike.

Mr Bill Cockburn, managing director of Royal Mail Letters,

By Jimmy Burns, Labour Staff

BRITAIN's ports could face industrial disruption next month because of a dispute over annual holiday entitle-

ments involving nearly 10,000

The TGWU transport union

STO

said the disruption was patchy. Private mail companies reported significant increases in business, although many of the Post Office's biggest cus-

tomers appeared to have taken no special measures. Banks and insurance compa-nies said they had relied on

1.000

their internal distribution systems for urgent despatches to regional and branch offices. Barclays Bank, which mails 250,000 Barclaycard statements and a similar number of account statements every day, said the stoppage was too short

to trigger its contingency plans for an emergency service. However, many smaller organisations such as newspa-pers and advertising agencies resorted to courier and express services for urgent deliveries. One of the major gainers was Red Star, the parcels service operated by British Rail, which is in direct competition with the Post office's strike-bound Datapost service.

Mr Colin Goodall, Red Star's resources manager, said the number of cash customers was up by between 70 per cent 100 per cent around the UK.

TNT. the Australian-owned transport and distribution group, said it expected many of its temporary customers to des-ert the Post Office system. TNT is one of a handfol of private companies which claim

they could compete with the Post Office if the existing monopoly of letters was abol-

# Tests in £1.5bn job training initiative see 55% failure rate

training managers, had shown that thers was a need to improvs counselling tech-

However, commission offi-cials said it was too early to

draw any firm conclusions from the trials, as they were not intended to be a complete test model of the programme. They said the development pro-

jects increasingly attracted enthusiastic trainees and train-

ing providers. Union leadsrs yesterday draw up composite motions for next week's annual meeting of

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

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By Charles Leadbeater, Labour Correspondent

MORE than half of the trainees who entered development pro-jects set up to test the Govern-ment's £1.5bn Employment Training programme, left before they started training, according to Training Commis-

according to Training Commis-sion figures. The figures cover 12 training agents who began trials in mid-May. They show that of the 1,000 trainees refarred to them from Jobcentres in the first month, only 45 per cent went into training.

This drop-out rate nonetheless compares favourably with the New Job Training Scheme. About 78 per cent of people referred to that scheme from Jobcentres drop out before

next week's annual meeting of the Trade Union Congress, the federation, which make it almost certain that the umbrella body will decide to boycott could lead to the pro-gramme's being scaled down. Union leaders opposing a boycott believe that they will lose a ballot on the issue by by at least 200 000 wriss. starting training. The training agents for the Employment Training pro-gramme offer unemployed job-seekers three days counselling on their training options. Employment ministers believe the counselling should cut the high drop-out rates of other at least 300,000 votes. The Congress seems almost certain to support a motion submitted by Nalgo, the public sector union, which calls for a policy of non-co-operation with programmes by ensuring that training courses are tailored to individual needs.

Nalgo accepted an addendum to its motion from the GMB, general union, which says that unions should be allowed to Employment Training, which is launched today, is planned to provide an average of six months' training for 600,000 unemployed adults a participate in the scheme for

no more than two-years, while projects are run down and staff deployed. The addendum means that However, drop-out rates on some of the trials exceed even the higher levels of programmes already in place. In one new town in the north of England about 75 per cent of trainees left before starting their training. The commission said that the trials in its 10 regions,

OUTPUT- By market sector; consumer goods, investin goods (materials and juels); engineering output, met

goode

The addendum means that the the GMB, which supports co-operation with the pro-gramme, will vote for the Nalgo motion. The GMB hopes that this addendum will allow unions to participate with the pro-commute which have grown to involve 25 training agents and 112 gramme.

**UK ECONOMIC INDICATORS** 

ECONOMIC ACTIVITY- Indices of Industrial production, manufacturing output

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qtr.	111.1	105.1	27.7	125.4	155.9	3,073	. 210.4	
qtr.	111.8	106.4	27.8	128.3	165.9	2.965	226.1	
qtr.	114.0	111.3	28.3	131.8	171.8	2,827	241.8	
QU.	115.1	112.8	29.5	133.4"	17210.8	2,655	202.1	
omber B	115.4	112.9	29.6	133.6	244.8	2.014	256.6	
qtr.	115.4	114.1	314	136.5	173.3	2.554	247.8	
qtr .	156.8	115.9	31.7	129.3	181.2	2.414	254.8	
uary	116.5	115.5	31.1	134.9	178.9	2.565	248.5	
ruary	114.0	112.5	31.3	438.3	108.5	2.533	247.9	
ch	116.8	114.3	. 31.4	135.5	175.1	2,694	245.5	
u	118.5.	115.4	. 31.2.	1236.4	180.4	2,453	253.7	
	* 117.8**	116.9	" "31'S `	. 135.8	189.5	2,414	255.5	
9	116.8	. 115.3	31.7	136.8	182.3	2,372	255,2	:
• •				139.5		2,314	248,4	

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Textile etc.

House.

NatWest to seek listing in Tokyo By David Lascelles, Banking Editor

NATIONAL Westminster Bank is to raise £100m by seeking a listing for its shares on the Tokyo stock exchange and making a public issue in the Japanese market. Plans for the issue were

originally announced last year, but were later postponed because of the October stock market crash

NatWest will be issuing 20m shares, equivalent to 2.6 per cent of the shares outstanding.

The exact terms have yet to be decided, but the bank said yesterday the proceeds after fees, taxes and expenses would be about £100m. The issue will probably be made early next month

The listing will have to be approved by Japan's Ministry

The application is being tered ar sponsored by Nomura Securi-ties, which will also lead a Page 20

group of Japanese underwrit

NatWest's Japanese invest-ment banking arm, County NatWest Securities Japan, which is a member of the Tokyo stock exchange, will participate in the marketing of the issue.

the issue. Lord Boardman, NatWest's chairman, said yesterday: "The listing will give us access to the world's largest equity markets and allow 24-hour trading in the bank's shares, reflecting the worldwide sider allowing new ways for building societies to raise extra capital, either by bor-rowing new forms of long-term debt or by issuing shares akin to equity shares in a company, It notes that building societies in Australia have already

nature of our busine NatWest's move is the latest in a series of steps by UK-based banks to obtain listings for their shares in major over-seas markets in the US and the Far East.

Barclays and Standard Char-tered are both listed in Tokyo. Hard times in Tokyo,

of cashless pay at local level. Union officials have been 2nd Janu Febr Marc April May June June pressing for an annual holiday entitlement of 30 days. They are also objecting to the issue. being linked to changes in the method of pay, which they

**Ports face industrial dispute** 

islation, union leaders will have to call a strike within 28 days if a majority votes in

.The ballot follows the breakdown earlier this month of

Alan Tuffin: fears start of pay differentials

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Over the last 90 years, the work of the DGAA has lifted thousands of kindly men and women (many whose lives have been devoted to caring for others) from the mental and physical abyss of bereavement, financial crisis and epproaching fraity. In every part of the country we have been helping to keep them in their own

homes, but, when necessary, in one of ours. Few other charities provide quite the same service for quite the same kind of people. Especially we need the "will power" of legacies to belp us continue and expand our work. Please use some We are a sincere, prudent and immensely caring charity, and we promise to use your bequest very carefully and well.

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Nigb	Low	Company	Price	Change	Gress div (p)	Yield %	P/E
237	185	Ass. Brit. Ind Ordinary	237	-1	8.7	3.7	0.9
237	186	Ass. Brit. Ind. CULS	237	-1	10.0	4.2	
40	25	Armitage and Rhodes	35	ō			
57	37	OBB Design group (USM)	37	Ď	2.1	5.5	5.9
169	155		169	ō	3.3	2.0	23.8
115	100	Bardon Group Conv. Pref	115	ō	6.7	5.8	
148	132	Bray Technologies	132	-1	5.2	3.9	10.6
114	108	Brembill Coov. Pref	110	ō	11.0	10.0	
287	246	CCL Group Ordinary	284	Ō	12.3	4.3	- 63
161	124	CCL Group 11% Conv.Pref	160md	-1	24.7	92	-
151	129	Carbo Pic (SE)	150	0	61	41	9.2
112	108		112ml	Ō	10.3	9.2	
306	147		307	+2	12.0	3.9	6.8
97	60		97	0			
116	87		112xd	0	3.4	3.0	12.4
350	245		340	0	-	•	
111	40		111xd	0	7.5	68	2.4
430		Scrollops	415	0	0.0	1.9	37.7
233		Torday & Carlisle	233945	0	7.7	33	7.7
- 96		Trevian Holdings (USM)	75+6	0	2.7	3.7	0.1
113		Unistrut Europe Conv Pref	108	0	8.0	7,4	
295	203	W.S Yeaks	290	-1	16.2	5.6	7.9
		designated (SE) and (USM) are deal lange, Other securities listed above (					The

Granville & Co. Ltd.	Granville Davies Limited
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says that it is neutral in its attitude to conversion, the is organising a strike ballot of the dockers registered under report was attacked last night by Mr John Wrigglesworth of Phillips and Drew, the City of London securities house, for the controversial jobs-for-life National Dock Labour Scheme. The result of the ballot, which calls for a series of taking sides against it. "The tone of the whole weekly 24-hour stoppages in the registered ports in support of improved entitlements, are report shows that the Commisdue in the last week of this sion is not neutral on building society incorporation," Mr Wrigglesworth said. month. Under the terms of the Government's trade union leg-

dockers.

on the a Docks Agreement between the National Association of Port Employers (NAPE) and union officials representing the dock-

favour.

The union rejected the employers' offer based on an improved annual holiday entitisment from 22 days to 23 days, effective from 1969 and conditional on the application

believe should not form part of the annual national docks agreement.

The dispute highlights the The dispute highlights the limitations and potential sources of conflict in the annu-ally negotiated agreement. This covers sickness pay, pen-sions and holidays but pro-vides for pay to be negotiated at local level.

Airport capacity to be political issue 'by end of this century'

> Rolls-Royce has studied a tandem fan design as one solution which is already being studied for the next generation of vertical take-off aircraft to replace the Harrier vertical take-off and landing jet fighter. Hence, engine technology for a future supersonic airliner could be developed from a military engine programme.

Mr Selwyn Berson, the president of commarcial engine business at Pratt & Whitney, one of the two main US aero-engine companies, said that his company forecast a compounded growth rate of 4.7 per cent in world passenger traffic. "We see airline require-ments during this period for 12,800 engines and spare parts valued at about \$70bn," he said.

The products to meet these needs were not derivative products; they were the highest technology available. The tech-nology was moving forward for the ultra-high bypass type of ducted propellors and pro-phands. Mr Berson said the development would evolutionary and not revolutionary. A second-generation super

sonic airliner raised a host of "severe technical challenges in propulsion." Pratt & Whitney is looking at a "variable stream control engine and a turbine bypass engine, for supersonic transport.

By Ralph Atkins, Economics Staff

THE SUPPLY of homes available for rent in London

has grown faster than demand in the past three years, says a survey published today.

More than three quarters of the capital's estate and letting agents have seen an increase

in the number of properties for rent. However, demand has at

The survey was compiled by Mass-Observation, the indepen-

best remained static.

Rental 'glut' in London

Informati services s for growt

By Terry Dodsworth

THE UK market in info services carried over t phone network is lil grow by between 30 p and 35 per cent a year u early 1990s, according to study hy Systems Dyn the market research con The pace of growth w in the early 1990s, the adds, but the total mark

nevertheless amount to \$2.5bn by 1995 The figures come and

scepticism over the d ment of the telephone information market, known as Value Adde work services (VANs). Some activities, such tronic mail, have not ex as swiftly as originally

> Systems Dynamics h says expectations fo says expectations to industry were inflated an the sector is growing as ously as can be expected The report also sugges Britain will provide the VANs market in w Europe in 1995, when the region as a whole will generate revenues in this sector of about \$9.8bn.

The US market is by then expected to have reached \$20.3bn against \$4.1bn last year, while the Japanese indus-try will have expanded to \$2.2bn from \$978m in 1987.

dent research company, for Safeland, the north London

Rather than suggesting that

demand is outstripping supply,

the reverse appears to be true.

The survey shows that stron-

gest growth in supply of rented

accommodation has been among properties with rents in

the £100- to £250 a week hand: the lower end of the market.

property company.

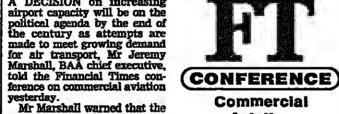
1967								
1st otr.	107.4	100.1	118.1		114.8	103.3	17.5	
2nd otr.	110.0	101.6		104.4	120.1 121.1	104.8	20.0	
and our.	112.5	105.9	115.2	108.0	171.0	195.5	17.0	
December	113.5	189.7	118.6		115.0	104.0	14.2	
1968					1. S. S. 1. V.			
1st qtr.	113.5		120.1	109.8	127.0	106.7	29.1	
2nd gtr	114.5	111.2	120.5	113,7	132.0	105.3	23.0	
January	114.4		. 122.4	- 111.0	138.9	104.0	18.2	
February	112.3	106.1	118.3	105.0	125.0	107.0	20.5	
March	113.7	106.3	129.0	111.0	120.0	104.0	21.6	
April	112.6	111.8	120.4	113.0	134.0	104.0	21.2	
May	115.2	111.7	118.4	114.0	141.0	106.0	21.5	
EXTERINAL balance; cu	irrent bala	ndices of Ince (£m);	oil bele	nd import	terma of	(1985 - 10 trade (1	0); visible 985=100);	
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	Export Volume	volume	Vielbie belance	Current	Oil belance	Terms	Reperve US\$bo	
1967								
2nd gtr.	105.2	111.3	-2,390	-354	+1,018	87.8	34.36	
Srd qtr.	108.2	179.5	-3,201	-1,103	+936	57.8	- 34.81	
4th qtr.	111.8	120.8	-3,200	-1.893	+1,073	. 87.6	44.33	
December	111.3	122.2	-1,239	111	+ 345	\$7.2	44.32	
1968 1st qtr.	106.5	117.8	-3.952		Beach		Inches	•
2nd gtr	111.1	127.4	4,433	-2,888	+.880	. 17.8	44.64	
January	108.4	118.6	-1.303	-1.035	+ 679	98.9	40.52	
February	103.6	118.8	-1.535	-1,181	+311	97.1	42.93	
March	107.6	115.7	-1,024	-669 -	+213		44.64	
April	113.3	124.0	-1,206	-708	+309	36.6	47.36	
May	198.8	127.2	-1,684	-1,184	+ 221	23.1	46.53	
June	111.3	131.0		-1,841	+148	99.1	46.62	
July .	109.1	145.1	-2,651	-2,151	+65	81.7		
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	MO %	MT X	MS	. Nancing Sm	Em.	aredit .	ratio %	
1987			~		- MR.	- <b>- - - - - - - - - -</b>		
1st qtr.	4.4	23,5	18.6	+6,733	1.465	+977	18.00	
2nd gtr.	4.5	21.2	19.0	+8.554	1,804	+1.068	9.00	
3rd qtr.	5.0	20.5	29.1	+11.448	1,211	+ 374	10.00	
4th qtr.	4.9	22.2	22.5	+11,202	3,007	+ 946	8.50	
December	43	22.2	22.5	+ 5,000	1,089	+240	8.50	
1988 1st gtr.	5.3	10 -	-				5	
2nd gtr	6.6	16.8 18.3	20.4	+12,930	3,051	+ 1,035	8.50	
January	4.9	20.5	26.2	+15,797	4,173	+1,000	5.50	
February	0.3	19.7	20.0	+ 5,598 + 2,554	1,102	+268 +321	9.00	
March	5.8	19.6	20.4	+4,778	1,050	++428	8.50	
April	6.1	22.3	28.0	+8,218	-1,576	+281	8.00	
May	6.2 7.3	28.7	19.1	+3,141	1,358	+ 365	7.50	
July	63	14.3	20.2	+6,440	1,239	+440		
July		17.8	20.7	+8.271	1,362	· · · ·	- 19.50	
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ATION-Indices of earning prices of manufactured 1967 = 100); Reutars co manufactured products (1985-

multi franke	- 100)					
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78,000 take-offs and landings at Stansted, the airport north-east of London designated as the capital's third, "would have to be lifted to realise the full capacity of 15m passengers at the new £300m terminal."

"This issue is likely to be put on the political agenda by pres-sure of market forces," Mr

The Government had to accept the restructuring of the industry and airlines had to accept "rational disbursal of traffic to regional airports to avoid congestion," he said. Separately, Mr Philip Ruf-fles, the director of design engi-neering at Rolls-Royce, UK aero-engine maker, said a future supersonic airliner would need to have substan-tially reduced takeoff noise a Marshall said. BAA, the privatised airport group formerly the British Air-ports Authority, is looking beyond these plans towards increased capacity by the end of the century. Passenger traf-fic will double at BAA airports within 15 years and the group tially reduced to have subshift range of 6,000 nautical miles and the ability to fly efficiently over land at subsonic speeds. expects to recommend new airport capacity next year. Mr Gil Thompson of Man-chester Airport talked of the role which provincial airports could play in easing air traffic congestion. The liberalisation of air transport in Europe He said an engine for such a supersonic airliner would need to combine two types of opera-tion, high-bypass for take-off and subsonic operation, chang-ing to a lower bypass operation at supersonic speeds. would generate growth, but it also placed strain on airports. The larger regional airports

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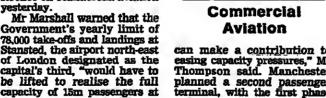
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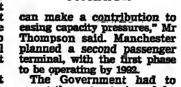
For the six months 30th August, 1988 to 28th February, 1989

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an interest amount of U.S. \$631.94 per U.S. \$10,000 Note.

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FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

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We now require a suitably qualified Financial professional to assume responsibility for the direction and development of accounting and administrative operations within the UK and Sweden. The department is currently 40 strong and organised under 6 managers, all of whom will report to you. Functions include Accounting, Financial Planning 6 Control, Distribution, Legal and Real Estate. Manager Manager This will be a highly challenging role, reporting directly to the UK Managing Director. It will be mand drive, adaptability and first class professional skills, and ideally a recognised accountancy qualification. An accountished communicator with the ability to take an extine part in

to £50K+Car Aged at least 35, you are now looking for the opportunity to influence a growing international business long-term at senior levels, which is precisely what we are able to office. There will be a salary negotiable to £50,000 and an attractive stock option as part of a comprehensive benefits package.

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## FOR ACCOUNT

# INTERNATIONAL APPOINTMENTS

# Allied-Signal announces appointment of treasurer

pursue other career opportuni-ALLIED-SIGNAL, the US-based

worldwide advanced technol-ogy group with businesses in aerospace, automotive prod-ucts and engineerad materials, has elected Mr G. Peter D'Alola In his new position, Mr D'A-loia has assumed responsibility for the corporation's domestic and international finance and vice-president and treasurer, and Mr. Nicholas A. Cameron hanking functions.

Mr D'Aloia will continue to to the newly-created post of direct the firm's tax function. senior vice-president, operations services. Both appointments became effective He joined the company as a tax attorney in 1972 from Arthur Young & Co.

from August L. Mr-D'Aloia, 43, and formerly vice-president, taxes, has suc-ceeded Mr William F. Lofins, who has left the company to Mr Cameron, 49, took up employment with the company fn 1960 and has held a variety of executive positions in finance, strategic planning and dministration. Since 1986 Mr Cameron has

served as a senior vice-presi-dent and group officer. He is now directing through

the new post several corporate service groups, including health, safety and environmental sciences, administrative services and information

systems and services. Mr Cameron will also be responsible for special projects as assigned by Mr Alan Belzer, president and chief operating officer.

Digitext chooses chairman DIGITEXT, a California based

# computer company, has appointed Mr Philip C. Haines chairman and chief executive. As chairman, Mr Haines replaces Mr Monty D. Eanf-

man, who will continue as a director of the company. The post of chief executive, has been vacant since October 1987 although Mr Haines has served for several months as acting chief executive.

acting chief executive. Mr Haines was the founder and is chairman and chief executive of Xmark Carpora-tion the producer of word pro-cessing equipment and mniti-user office antomation com-puters. He will continue to serve as chairman and chief executive of Xmark, bot will devote his main efforts to Digi-text.

#### \*\*\*

MR ANTHONY P. GAMMIE has been elected to the board of directors at AMAX, USbased natural resources group. He is chairman and chief execntive officer of Bowater Inc. the largest US manufacturer of newsprint.

Mr Gammie was elected chairman of Bowater in 1385. He has been president and chief executive officer since the company was listed on the New York Stock Exchange in 1984

# **Finnish commercial** bank strengthens management team

By Olli Virtanen in Helsinki

Mr Pentti Rissanen, 45. will

be senior vice-president respon-sible for group audit, legal affairs, contacts with the regu-

latory authorities and monitor-ing international legal develop-

Rissanen, who is currently senior vice-president in KOP's

Investment Banking organisa-

investment banking organisa-tion, will largely assume the position of Mr Simo Kärävä, who retired in July. KOP also eppointed Mr Peter Fagernäs, 36. as senior vice-president responsible for investment hanking. He replaces Mr Jukka Härmälä, who left the bank to become managing director of the Finn-

managing director of the Finn-ish forest industry group, Enso-Gutzeit. Fagernäs is pres-ently managing director of Kansallisbanken, KOP's Stock-holm subsidiary, which will be wound down following the deal in which KOP hought a sub-

in which KOP bought a sub-stantial share of Gota, the

Swedish banking group earlier

Enso-Gutzeit, the Finnish state-controlled forest products **KANSALLIS-Osake-Pankki**, the Finnish commercial bank, has appointed two members to its company, is restructuring its board of management as of September 1, 1988. top management. From the beginning of next

month, Mr Jukka Harmála, 41. will become managing director and chief operating officer.

Mr Pentti Salmi, current managing director, will be chairman of the board and remain chief executive, concentrating on corporate strategy. Mr Härmälä is current exec utive vice-president for investment banking and a member of the board of directors at Kan-sallis-Osake-Pankki, Finland's leading commercial bank.

\*\*\*

Huhtamäki, the Finnish foods, drugs and packaging group,has appointed Mr Timo Peltola, 42, as president and chief execu tive officer of the group as of July 1, 1989. He will succeed Mr Asko

Tarkka who will be chairman of the board from that date. Peltola is currently executive vice-president in charge of Huhiamaki's food operations in Finland as well as corporate planning and public affairs.

Earlier this month Mr Charles Parmalee, a 20-year-old associate of Stephen Roman, resigned suddenly from the presidency of Roman Corp and as vice-president of Denison Mines, because of policy differ-ence with Mrs Roman-Barber. Mr Emerson has not worked previously in the mining sector previously in the mining sector and he said his first task will be to "get in and understand the business and review it with

# **MANAGEMENT ACCOUNTANT INFLUENCE THE DIRECTION** OF A MAJOR MULTI-NATIONAL

this year.

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improve performance and profitability. Professionally qualified, CIMA or ACCA, you should have 2-3 years' broad-based experience in management accounting. From a multi-national background, ideally in manufacturing, you will have had

exposure to dealing with overseas subsidiaries and appreciate the impact and risk involved in currency fluctuations. At Rhône-Poulenc we use the highly advanced WIZARD spread-sheet system, on which lull training will be given, you must however be familiar with financial modelling systems. We can offer an excellent salary together with all the benefits of working lor a major multi-national company including a company car, private health insurance and assistance with relocation, where appropriate. Career prospects are first-class within the company world-wide. Please write with full details to: Mr B McCann, Personnel Department. Rhône-Poulenc Ltd, Rainham Road South, Dagenham, Essex RM10 7X5.

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MRS HELEN Roman-Barber, He will become president of who took over as chairman of the Denison Mines Limited, the Roman Corporation, the Roman family company that controls 37 per cent of Denison resource group, after the death of her father. Mr Stephen Roman, early this year, has appointed a financial manager Mines, the uranium, potash and oil and gas group. as president of the family hold-

By Our Montreel Correspondent

Roman Corporation also owns 26 per cent of Lawson, Mardon Gronp, the interna-tional packaging company, 109 per cent of a paper products group, and interests in finan-cial services. ing company. Mr Montrose Emerson, 56, chief financial officer of Proc-ter & Gamble Canada, has spent 32 years in the consumer products industry.

microsystems

Mining group names president

chairman."

ACCOUNTANCY APPOINTMENTS

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Success in this role will guarantee you excellent career prospects within this forward thinking dynamic firm and includes potential for equity participation. Salary is negotiable with the above envisaged as a starting point, however, it will not prove a barring factor for the right candidata. Benefits include quality company car, pension scheme, BUPA etc.

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Planse apply directly to Richard Holland at Robert Half, Freepost, Weiter Flouse, Bedford Street, 418 The Stand, London WC2R OBR. Belephone 01-836 3545, scennings 01-348 1173.

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- Budgeting/Planning

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- Theasury and cash flow management
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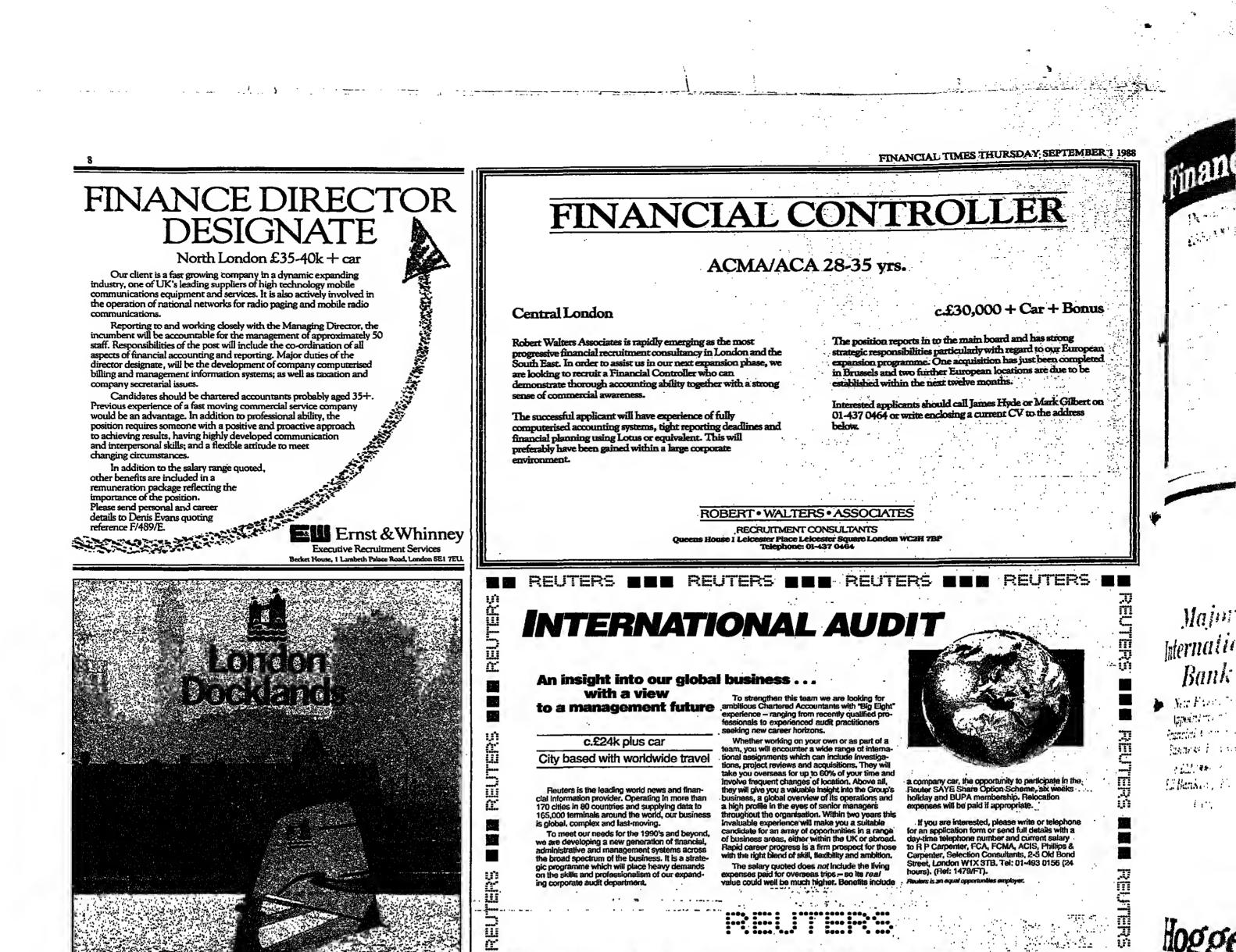
A commercially minded individual with financial expertise, your success will be dependent on your ability to contribute to a multi-disciplined team. Aged 29-34, you will be able to demonstrate qualities of leadership and determination combined with the ability to deal effectively with senior managers.

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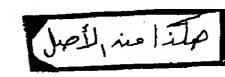
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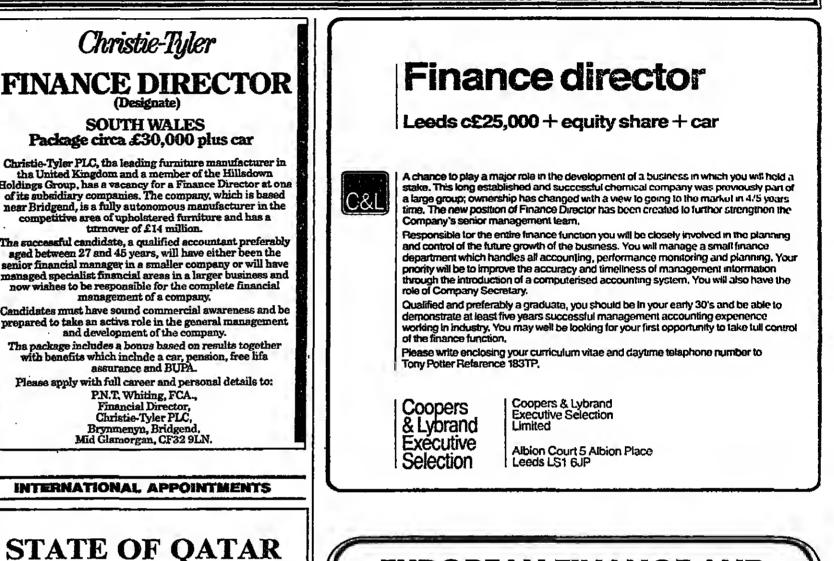
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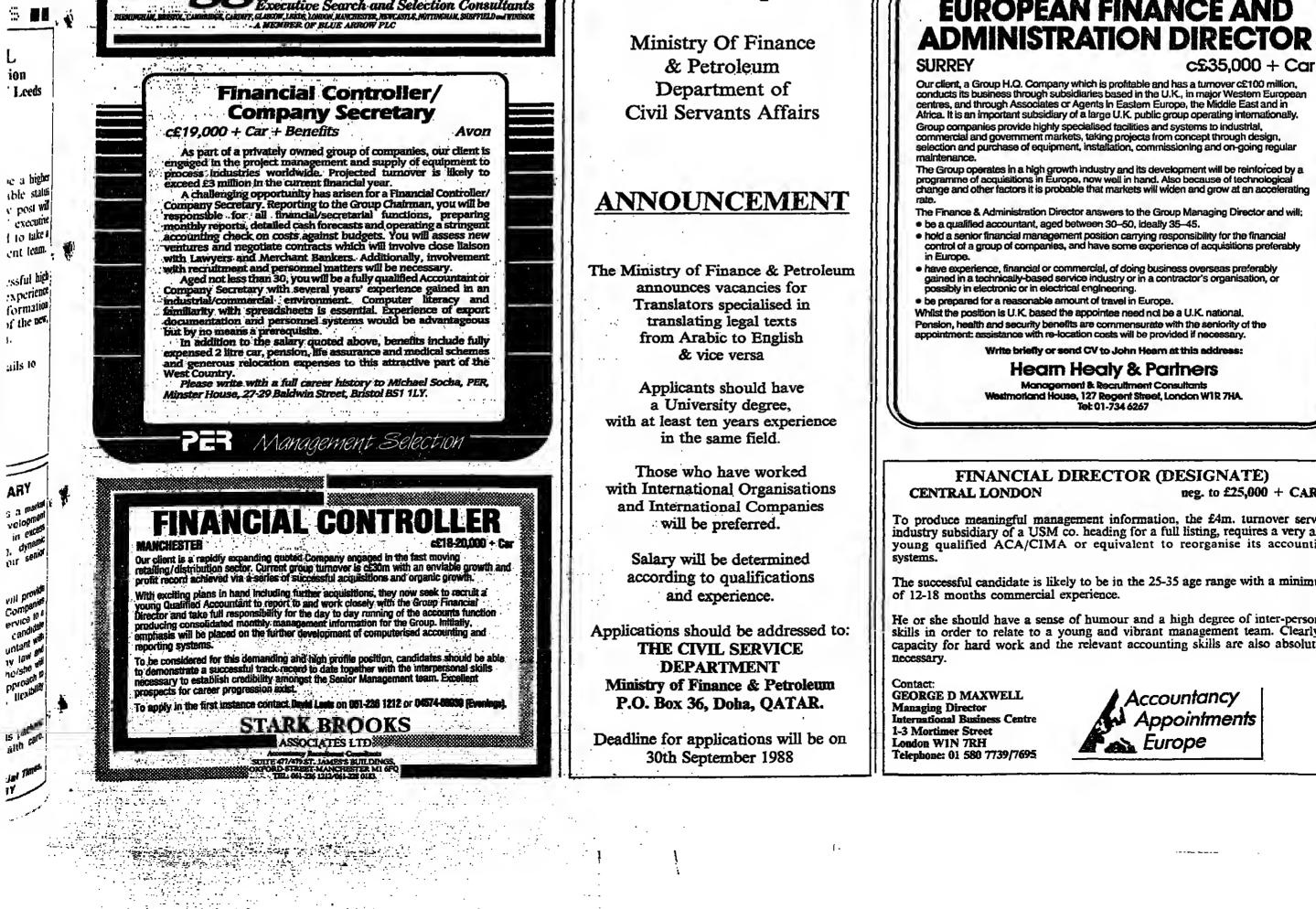
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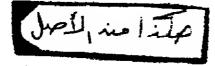
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# **Group Finance Director**

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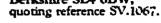
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#### **MANAGEMENT:** Marketing and Advertising

How Tonka toys with its European range

# be creation of a uni-fied European market in 1992 will not mean that a single market-ing strategy can simply be devised to cover it. Of that, at

least, Andrew Low, European marketing services director for Kenner Parker Tonka (KPT), the US toys and games multinational, is certain.

Pan-Enropeanism may be the buzz-word. But long after the European Community's internal trade barriers have been removed, Low expects that, as now, successful European marketing will depend on e sensitivity to differences in national cultures and indus-trial organisation.

Experience shows that if a children's toy or board game is successful in the United States, there is a better than even ance that it will also sell in Europe. But in making a third of its \$800m annual sales of toys and games, euch es MASK, Real Ghosthnsters,

Care Bears, Playdoh, Monop-oly and Trivial Pursuit, in Europe, KPT has learnt that it must modify its marketing approach as it crosses almost every national frontier.

To save costs as well as to present as consistent an identity as possible across Europe, KPT's European head office in Maidenhead, Berkshire, decides a basic marketing plan for each product. "Our role," says Low, "is to provide the product to a target cost and with as much support around

it as we can generate." Television figures large in thet snpport. Low's group liaises with KPT's advertising agency, Grey, in developing TV commercials to cover sev-

eral national markets. It also seeks to tie other television programming into its market-ing plan. Many toys are now derived from children's TV programmes and cartoon programmes and the content of the series; and if KPT can get its toys into a market as those programmes are running, the effect on sales can be enormons Third party licensing - the

rights in spin-off products such as comics and videotapes - is also handled centrally. And, working closely with KPT'e design consultants, Barsby Prince, Low's team develops the packaging -incorporating, wherever possi-hle, multilingual instructions

and information - and the

layout of the catalogues Consolidating such activities, says Low, saves money which can be used more effec-tively on local promotions. These are handled by the oper-ating companies in each Euro-pean country, which fix prices, and sell to the local trade through previews for the big-ger customers (in the UK, France and West Germany, 80 per cent of revenue comes from 20 per cent of customers) and toy fairs.

The local companies also add their own advertising, public relations and other marketing effort to the basic, centrally devised, strategy. But even as it is heing devised, the basic European

The US multinational still believes in national differences. Philip Rawstorne reports strategy is constantly being adapted to the particular needs of different countries.

needs of different countries. The first question to be decided is often whether the decided is often whether the US brand name will translate for the European market. Wish World Kids, a toy for girls, for instance, had to be changed to Les Ali Babettes to convey some meaning to the French.

some meaning to the French. Then there are the materials from which the toy is made. Germany has legal limits on the use of PVC so parts of the boys' action toy, MASK, had to be replaced with another plas-tic substance, Kraton. The advent of 1992 may remove prohlems of this kind. But there are others that will not be affected by the removal of

internal trade barriers. The Netherlands market, for instance, is notably sensitive to price. Dutch parents spend less on children's toys than other Europeans. If the price of a toy is judged to be too high, even the best promotion will make little difference. In contrast, a KPT game called Risk is played by three times more people in the Nether-lands than in any other European country. Germans take their board

games seriously. Advertising in that market must, therefore, be focused on the way the game is played. The French are attracted to such games, on the other hand, by more emotional appeals. "Monopoly-

in Germany is a matter of getting hotels on Mayfair," says Low. "In France, Monopoly is an opportunity for role

an opportunity for role playing, for fantasising." In Germany, parents strongly reject toys associated with violence. Before the MASK toy was sold there, the brand logo, originated in the US, had to be modified to get rid of some of its weaponry. Italian children have strong, traditional preferences — for dolls and die-cast model cars. KPT must add a section to its catalogue to cater for the demand.

The catalogue must be fur-

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

centrated in the hands of a small number of national buy-ers. The most effective method of selling to them is by per-onal previews of new prod-ucts. The catalogue is used pri-marily as an aide-memoirs and mark met include much detail need not include much de

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In France, the market is highly fragmented with a large number of independent retailers. Personal previews are given to the top 20 cus-tomers, but the annual toy fair tomers, but the annual by bir is the focal point of the mar-heting effort, and the cata-logue must include much more detail about the products.

detail about the products. The toy business is highly volatile at the best of times. "Buyers' decisions," says Low, "often haif on the amount and quality of the marketing support that is being given to a brand. It is possible to com-pose a basic marketing theme, but it has to be varied continu-ally to harmonise with each ther tailored to buying meth- ally to harmonise with each ods in different countries. In country's cultural perceptions the UK, the toy market is com- if it is to be successful."

# **Pirelli legs it in West Germany**

Andrew Fisher on the Italian tyre maker's innovative campaign

elling tyres is e tricky husiness. Even in West Germany, one of the world's higgest and hest informed car markets, many motorists have no idea which hrand of grooved hlack rubher is wrapped round their wheels to make their ride safe, smooth, and comfortable. What's more, they could hardly care less, especially with 40 or so makes on offer.

To try to get their messages across, companies have resorted to sex, technology, or, in these days of subtler media persuasion, so-called lifestyle appeals. Pirelli of Italy, which has e hig German operation. has done all three. In the 1960s, it displayed long, shapely female legs in its tyre advertisements. "This was regarded as really shocking then," seys Ingrid Langner, an account executive with Saatchi & Saatchi in Frankfurt, which now handles the Pirelli campaign.

The company has also gone for the technical epproach, stressing the characteristics of its tyres to those who may he interested. Today, however, Pirelli is doing something very different. It is now in the second year of a press campaign in which cars hardly appear. Instead, its magazine ads show a faster a car can go with safety, though some comfort is lost. They are designed to hold np at high speeds – on most stretches of autovariety of hright, young, welldressed, and prosperous looking people who appear to be moving on just one tyre each, with no need for an actual vehicle.

The aim is to put across values rather than a mass of technical detail, comhining the soft lifestyle approach with hrief, definite stateis a major supplier.

ments about the quality of its tyres. "The approach is emotional rather than rational," says Langner. One ad shows e casually-dressed father cruising round a suburban corner with his beaming toddler strapped on his back. The same theme has been used in test TV spots in the state of Hesse; they were well received and Pirelli is deciding whether to show them nationwide.

also in evidence in this and some

other ads, but not so as to shock.

Pirelli's overall slogan for Germany

is "Die Beine Ihres Autos", which

translates somewhat awkwardly as

Frankfurt, Pirelli specialises in

so-called wide and performance

tyres, costing more than standard products. The wider the tyre, the

In its German operation, south of

"The Legs of Your Car".

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each other.

no satellites in orbit.

Europe and Africa. Above the Pacific, on the other hand, there are virtually

Officials at the conference estimate

that once the parameters of the satellite slot allocations are worked out, if will

still take a Siemens mainframe com-puter two weeks to calculate the posi-tions for prospective satellites. The del-

egates will then have to decide whether to accept the computer's findings.

formance hrand with a sporty, eggressive image," says Langner. Then the image stagnated as other companies got into the performance act and the Italian company lost its exclusivity. In the campaigns drawn up by Saatchi, the idea has been to keep the sporty, spontaneous image, but try to remove any suggestion that drivers of Pirelli tyres were Only two of the nine ads in the prone to speeding. 1988 campaign show any cars at all, and then in the background. In one,

The 1987 ads were light-hearted. One showed e priest, also perched on one tyre, hurrying past a flock of sheep in an Italian village to get to the vehicles are barely visible in a drive-in movie. In another, an elegant young lady in e figure-hugging black suit stands helplessly beside a pink Cadillac which has broken his church. Part of the text read: "Sunday morning. Faster than the devil. On Pirelli." Others portrayed a male surf-boarder, a bowler-hatted down in the hills; the emphasis is on the dapper young man who has screeched to a halt on his tyre to help her. (Caption: "He came, saw and braked. On Pirelli.") Legs are London banker, and a young couple holidaying in the sun, all borns along on well-profiled tyres.

"Pirelli was known as a high-per-

For the 1968 campaign, Saatchi took a different tack. Instead of doing the photography in the south of France, it went to California. The idea was to bring more realism into the campaign, with the Hollywood area providing a range of backgrounds, as well as reliable weather. Some shots were taken in the Burbank studios.

To make the pictures look more realistic, Saatchi decided against the montages used in 1987. Instead, a special contraption allows the models to stand on the tyres with a hidden vertical support. Langner says independent studies

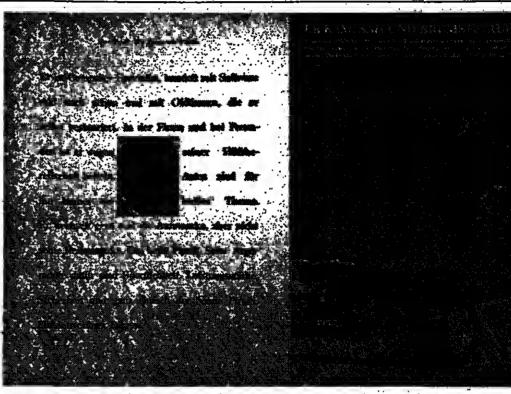
• •

bahn, the only limits are the drivshow that the campaign, seen in both motoring and popular weekly er's nerve or the state of the traffic - and to look good on upmarket cars like those of BMW, to which it magazines, has been getting across. After the first year, 49 per cent of

people questioned showed ewareness of the Pirelli ads compared with 28 per cent each for Goodyear of the US and France's Michelin, and 26 per cent for Dunlop tyres, owned by Sumitomo of Japan. Continental, the German company, scored 24 per cent; it also owns Semperit (12 per cent) and Uniroyal (11 per cent).

We want to convince our target group that only Pirelli expresses an active, dynamic, powerful driving personality," asserts Langner. While the first ad series was meant to awaken interest and put over a slightly breathlese image, this year's has delivered more arguments, expressed in three-line texts on such performance aspects as cornering, hraking, and road holding in all weathers. "Drivers need convinc-ing arguments when they go to dealers. They're not going to say they want certain tyres just because they look good. So we want to give more information."

Does all this help to sell tyres? Pirelli, which employs 3,400 people in Germany where it had a turnover of around DM 800m (\$425m), is pleased with the response to the ads. But it is still too early to judge how they have affected sales, says Lutz Radike, head of marketing at Pirelli in Germany. He divides the market into three roughly equal sections: freaks or fans, who are keen on motor racing and know just what tyres they want for their own driving, both for looks and performance; rationalists, open to persuasion and not just interested in cheapness; and the uninterested,



Pirell's overall slogen translates somewhat awkwardly as "The Legs of Your Car"

wanting only a low-priced product. Since new cars are equipped by their manufacturers, which put pressure on tyremakers to keep prices down, the emphasis in the ad campaign is on the profitable replacement market. Though Michelin is the overall leader, Pirelli is first in performance tyres alone, which comprise a fifth of the market. Last year, replacement busi-

ness in this segment expanded by 35 per cent to 3.4m tyres in Germany. Growth is expected to be 29 per cent in 1988, 20 per cent next year and 13

per cent in 1990 and 1991. With some 20 suppliers of performance tyres, Pirelli is fighting hard to stay ahead in Germany, It does ing market." But the intermediate to raise its 25 per cent hard earned. "In its den market share by much, if at all. Radike, "the German merket want to grow with the total toughest in the world."

WORTH

**Edited by** 

WATCHING

**Geoffrey Charlish** 

maliboxes can also be

such a single-minded view That is one of the conclus

of a new report, Card Payment Systems 1, from Post News, a UK market

smart cards look like ordinary credit cards, but include an ultra-fhin compo with a memory containing the holder's arcount

with a memory count. At a shop, the customer plugs the card into a terminal and keys in a personal mentilication number. The

The main objective is to

to save the banks money and

France is ahead in using

do away with cheque books

duce fraud.

- 1 24.2

market," says Radtke. "If we manage to do this, it will be a great success."

There is certainly scope for. expansion, believes Langner. "Ger-many is a rich country with the most cars in Europe. It's a rewarding market." But the rewards are hard earned. "In its demands." says Radtke, "the German market is the

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overnment representatives from about 100 countries are embarking on a five-week debate to sort out how each country can put communications satellites into space, by carving up the avail-able area in e fair way.

Hanging over the meeting, which started this week in Geneva, will be memories of the World Administrative Redio Conference (Week) Radio Conference (Warc) session held three years ago, which saw a clash between Third World countries and the more developed ones which already had satellites in orhit. The controversy revolved around whether slots for space satellites should continue to be allo-cated on a "first come, first served" basis

The Third World countries argued that they should have the right to reserve satellite slots for the time they were ready to launch their own domes-tic satellites. But the more developed with the view that the slots should go to those which already had both the technology and the money. At the heart of the debate were the

geostationary communications satellites, which orbit the earth at a speed which keeps pace with its natural rota-tion, and so from the ground appear stationary. They hover 36,000 km ebove the equator, fixed by the earth's gravi-

tational pull. So far, about 130 geostationary com-munications satellites are in orbit, most of them dealing with domestic and international telephone calls.

The higgest communications satellite operators are the international organi-sations, such as Intelsat and Eutelsat, which represent telecommunications companies from a number of countries. The UK is the largest participating country in Eutelsat and the second larg-est in Intelsat, after the US. This ranking is measured in terms of the volume of communications traffic transmitted hy the satellite and the proportion of money put into the two organisations.

Despite the actimony of the 1985 meeting of the Warc, ran by the Inter-national Telecommunications Union (JTU), the government delegations did finally reach a compromise. The satellite slots in the two frequencies now used for geostationary satellites (the C-band and Ku-band) are still allocated on the basis of which body books them first. That procedure involves would be operators submitting plans to the ITU, which then circulates them to other

interested parties. If there are no objec-tions, they are given the go ahead. However, some extre frequencies have been found within the two wave-bands. Called extension channels, these will be allocated to specific countries at this month's Warc. Each of the countries participating will be guaranteed its own slot. However, for every trans-mission channel allocated to e country under the Warc plan, there will still be two open to booking on the "first come, first served" basis. Although the decision to give all

countries the right to have their own satclite has been taken, detailed negoti-ations are only just beginning. One of the biggest headaches for the delegates at the conference will be to calculate

TECHNOLOGY

too complicated and lengthy a process, and would result in a new level of bureaucracy.

Other ideas mooted range from a more effective version of the existing ITU procedure to total privatisation of the bidding. That would mean the coun-try or company with the most money could huy the most satellite slots.

Although the most satellite slots. Although the problems look daunt-ing, the general mood among the Warc delegations is one of optimism that the satellite slots can be amicably allocated. "One of the most encouraging things we have found is the relative unanimity. of the countries unmented here?" of the countries represented here," says Theodore Brophy, chairman of the US egation.

The results of the Warc are likely to have little effect on the satellite manufacturers, although companies like British Aerospace say that any easing of congestion in the C-band is good news and could eventually lead to further orders for satellites. One reason that the extension channels in the C-band are being allocated to the less developed countries is that these are the cheapest for the operators to use, as there are no extra development costs for the satellites.

However, there are advances afoot in However, there are advances afoot in geostationary communications satellite technology which will come into play when the popular C-band and Ku-band are saturated. Although satellites now have to be positioned at two to three degree intervals to avoid interference, that only applies if the satellites are using the same frequency for transmis-sion. Satellites are being developed that will operate at much higher frequencies and much faster speeds, and so avoid and much faster speeds, and so avoid interfering with existing transmissions. The C-band satellites, for example,

transmit data up to the satellite at 6 GigaHertz per second (GHz/s) and down at 4 GHz/s. Satellites of the future will operate at between 40 and 60 GigHz/s. Higher speeds and frequencies would also enable each <u>satellite to handle</u> more information and so reduce the number needed.

number needed. The pressure is also lifting from satel-lites as the most effective medium for international communications. Optical fibres, which have only been commer-cally available during the past decade, have become cheaper than satellites on heavy traffic routes, such as across the Atlantic. Optical fibre cables are easier to install and meintin more server to install and maintain, more secure because they cannot be tapped into and more suitable for data transmission, as they do not have the time lag experi-enced on satellite links.

enced on satellite links. However, AT&T in the US says it will still continue to use satellite links for more remote areas and for transmission from one site to a number of others, point to multi-point, which is used for television transmission and private business networks.

business networks. A recent report from US market ana-lysts Frost and Sulivan predicts that sales of private satellite services to business customers will amount to \$1.2bn hy 1990. In Europe, British Tele-com also sees a growing market for point to multi-point transmission for business applications, particularly for companies with offices across the conticompanies with offices across the conti-

#### Esprit de computer

THE HARWELL laboratory of the United Kingdom Atomic Energy Authority is to lead European research into the industrial uses of "neural" computing networks. A E3.5m three-year

orogramme will be funded by Esprit (European Strategic Programme for informatio Technology) and companie in the UK, France, West Germany and Greece.

Neural computers mimic the workings of the human brain. The emphasis is on having many simple processing elements, each connected to every other, with Information stored in the connections, rather than relying on messive compa

provided from which users can collect material using fax machines anywhere in the inemory. It is hoped that machines can be built that will learn by experience how to find the most efficient way to solve world. Another facility allows local centres to exchange text with personal computers on subscribers' premises. This means material in the PC, a problem, without being pro-program

The project is called Annie (applications of neural networks for industry in rather than in document form, can be faxed. Compared with public networks, international Telecom claims that its Europe).

them of the pests and fungus that cause degeneration in

strong, sir-tight cabinet, with pages fanned out to allow Thyroi gas to penstrate them. Paper mites, mould and various bacteria are killed. The unit can be purged efferwards without risk to the

operator.

#### A venture into electronic mail

A NEW company called International Telecom, br by UK venture capital company 31, is to offer international "store and forward" facilities for

forward" facilities for facsimile and telex through centres in New York, Tokyo, London and, later this year, Hong Kong. In store and forward communications, subscribing companies send their messages to a local commuter identification number. The retailer enters details on apother terminal and the amount owed is debited. The shop's transactions for the anop a transactions for the day are logged in s retailer's storage unit, which can be "emptied" into a bank electronically. messages to a local con centre. These are stored and sent at convenient times for the overseas recipients

Simultaneous deliveries can be made to 1,000

amort cards, Post News, based in Somerset, anys Inst by 1990 most French Consumers will lave one. But the public's reaction is mixed. Researcher Tanks Platt, who wrote the report, interclawed 200 merches in Interviewed 200 people in Parts and found that 51 per cent had heard of the cards. Of those, 41 per cent were interested in having one, while 28 per cent were , ferent.

#### Hands-on device against fraud

HAND-HELD computers, from Palon, are being used in Marks and Spencer stores in the UK to cut down on chaque card fraud and abuse of the store chain's own credit Cards.

Cheque card "hot lists" are Cheque card. "hot lists" are regularly updated at M and S headquarters using information supplied by banks. The data is copied on to Psion Datapaks, which are plugged into Organiser 2 band-heid computers at the tilts.

tills. Custom ers' cards are Passed through the Organizer's magnetic card reader and the sales assist is alerted if the card is

Support. Retailors have to bear risks on transactions over 250. The banks absorb losses on transactions less than that and the Midland alone says It is saving more than 25,000 a month.

#### Vehicles that use the lifts

LITE IIILS AUTOMATIC guided vehicle (AGVs) are able to use the lifts at the Boegringer Mamheim pharmaceutical plant in West Germany. The system has been Installed by Wagner indums of Reutlingen near Stutigert a leading German supplier of guided vehicles. A kilometre of Inductive guide path has been eet into the path has been set into the four floors of the building. This permits the vehicles to take supplies to and from 22

points as required, avoid the build up of stock. If a vehicle has to chan floors, it leaves instruction to the lift over an infra-rea link, it uses the lift under the guidance of a central

CONTACTS: Herwelt UK, 0235 24141. Adu UK, 0462 52152, International Telecom: Lo don, 625 5704. Post-News: UK, 0635 5824 204. Post-News: UK, 0835 Bi don, 723 9405: Viagner Indu any, 7121 3051;-UK, 0990 256

for satellites Della Bradshaw assesses the prospects for international agreement on a fair way to allocate slots in orbit which country gets which of the spe-Once those allocations are settled, which country gets which of the spe-cific slots now np for allocation. Because a satellite is used for trans-mitting and receiving information from all the countries north and south of its position on the equator, some areas are particularly congested. Satellites are spaced about two or three degrees apart in orbit around the earth and cannot be placed closer together while operating on the same frequencies, as that would result in the signals interfering with each other.

Sorting out space

system. That option is supported by the UK delegation, headed by Keith Shot-ton, of the Department of Trade and Industry, because it would give less developed countries the ability to raise funds and put e satellite into orbit more quickly. Several European countries might also decide to pool their resources to make the best use of the each other. The section above the equator in Africa, for example, is particularly husy because satellites positioned there are used for communications throughout

how to improve the procedure under which companies claim vacant satellite slots, now done on the "first come first

sions, now done on the first come first served" basis through the ITU. One solution, suggested at the last Warc meeting, is that e multilateral planning meeting should be held every two to four years. Countries interested in launching geostationary satellites would go to the meeting to thresh out would go to the meeting to thrash out the problems. Although that argument found favour three years ago, many of the officials involved in the discussions now believe that in practice it would be

some countries may decide to pool their allocated slots to form a sub-regional

The second problem for the Warc is

system can provide better quality (using its leased fines), faster transmission **Clean break for** old books and cost savings of between 20 and 40 per cent. AFOS, of Hull in the UK, is offering a fumigation chambe in which valuable old books can be safely cleaned to rid

#### French view of smart card Books are placed in a ALTHOUGH the French Government and the country's benks are enthusiastic advocates of the "smart advocates of an card", the country's consumers do not take quite inside minded view.

### ARTS

KINGS'S THEATRE, EDINBURGH

Offenbach's Périchole

# GALLERIES Curators take their pick William Packer visits the Tate in London and the Nottingham Castle Museum

ogy or common place book is a perennial fascination, and so it is with the visual arts. Judy Egerton retires this summer from a distinguished curatorial career with the Historic British career with the historic British collection at the Tate, and for her parting shot she has filled Gallery 11 with a choice of British drawings and watercol-ours (no closing date yet given). She has drawn not only on the Historic but also on the Wolfern British collection see Modern British collection, gen-erally understood to be the work of the first half of this century, which may be stretched a hit. Her choice thus spans the

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two hundred years or so from the 18th century to the imme-diate past, from Alexander Coz-ens, Paul Sandby, Thomas Jones and Rowlandson to John Piper, Sutherland and Ardiz-Piper, Sutherland and Ardiz-zone; and at any point there are lovsly and intriguing works to relish. Whether it is a costume study by Wilkie, a house at Ironhridge by Baw-den, White Horse Hill by Ravi-lious, or Rowlandson's lowers den, White Horse Hill by Ravi-lions, or Rowlandson's lovers up to no good in the bushes, we hardly need a theme or pro-gramme to justify close atten-tion and enjoyment. Some of the works are known well enough, such as Cotman's magnificent Norwich Market and most What the

Market, and most, like the Turner of Yarmouth Harbour, Gwen John's seated, girl, and the Coxes, de Wints, Nashes and Spencers, are entirely characteristic. But by their very nature, none of them is regularly exhibited and most must be comparatively unfa-miliar, which of itself makes the show special. But yat, though there is no close critical thread to follow, there is even so a general, unifying sympathy in the work; for, by

Were it not so obvious once it is pointed out, this would be surprising, and there are still such particular surprises as Alexander Cozens' abstract landscapes, blotted onto the paper with an inky cloth as an aid to pictorial invention. The hang is not chronological but makes its point rather by subject, sympathetic cross refer-ence and comparison. A tiny David Cox study of jars on a shelf sits happily between two I found the works

chose me as much as vice versa. The exhibition has no beginning and end . . . it is up to

no vou'

Gwen John cats. Ardizzone's view from his window, of gar-dens with people walking among the trees, hangs above that glassfully ribald Rowlandson. Thomas Jones might be a modern realist by the unforced clarity of his studies in the 1780s of the back streets and roof tops of Naples. How Whis-tierian is the Thames at night by George Price Boyce, except that it was made in the early 1860s. And nothing could be more modern in its radical, graphic simplicity than Cotman's Durham Cathedral, seen from far below as a recession of silhouettes, grey upon grey.

Moments of Being, which I saw in Bristol in July, goes on show this weekend at the Not-tingham Castle Museum, where it concludes its tour

The personal anthol- dition in British draughtsman- and Aris Centre, Durham, who organised it for the South Bank Board. She is also an artist, and what makes her show so particular is that she offers Tourel, a mistress of Offen us, both in the catalogue and the show, the annotations and visual notes she made as she was pondering her selection. Again it is a small show but

full of the most lovely things, and if not everything would duction at the King's Theatre of La Périchole (she loses her have been one's own first choice, the discoveries and surprises are treat enough. The implicit challenge remains to test one's own experience and integrity in the consideration of what one would have chocompany. Music buffs who throw up their hands in horror of what one would have cho-sen. As it is, my admiration for Pepice and my love for Gwan John grow alike with everying of theirs I see. Gilman's steamer on the Thames at Bat-terses was a wonderful sur-prise. Anerbach remains as don-based national teams could produce results as musistrong as ever, Bratby, never so good as when he was still a

so good as when he was suil a sindent at the Royal College, and Josef Herman, as powerful and mysterious as he is mder-rated. The odd poignancy of Joan Eardley's village street in the snow merely underlines what was lost to British art by what was not to brink at by her premature death. Miss Johnson offers no clati-fication of her "moments of being," but the class lie in her

notes and; above all; in the chosen works. For a true work chosen works. For a true work of art should so focus the mind upon itself that the experience it affords becomes all but pal-pable. I found the works chose me," she writes, "as much as vice versa. Physically exhausted by the efforts of travel. I was instantly refreshed by paintings which possessed the quality I was looking for. Also, the longer I looked, the more these works had to give ... I found that drawing each work enabled me to explore the visual lan-guage ... the exhibition has no beginning and no end .. it is up to you ..."

Offenbach's Périchole is musical resources of singing inexplicably less known in this country than his Helen. Orpheus or Parisian flâneurs. actors would be more suitable than this attempt to turn them into opera-singers. The problem is epitomised

None of our major opera com-panies has come np with a pro-duction, though the New York by the ooe incontrovertible non-singer in the cast: Regina Lemnitz as Périchole herself. Met did a sonped-np and reportedly garish version 30 years ago. Connoisseurs cher-ish the old records of Jenny She should be allowed to do the part as a diseuse with occaaional Rex Harrison-like recourse to surg phrases that lie easily for her. As it is, she jumbles several registers, from cautiously breathy soprano to bach's sensuously wheedling elegance, in the street singer heroine's ditties, melting or cationsly brearby soprano to strident shonting from the chest. The Letter Song is care-fally negotiated – just. "Que les hommes sont bêtes" is vig-orously attacked but a strain to listen to; and "Quel diner je viens de faire" has the coy deliberateness of the tipsy. A lusrionsity the face and figure piquant. The first thing to remember at the Edinburgh Festival prodefinite article, and much else, in German) is that Berlin'a Schiller Theater is a straight theatre ensemble, not an opera

luscionsly ripe face and figure are negated by the actress's pateot anxiety as she tries gamely for every note with vocalisation that is willing if

vocalisation that is willing if sometimes hideous. Franz Marijnen's production opens not in Lims'e tavern square but in a sleazy dive out of *Cabaret*, full of cleavage and corsetry. Instead of Sally Bowles we get the incognito Viceroy of Peru in the dapper shape of Thomas Schendel. iall, trim, with a light bari-

wigged moralists to Victorian frumps; the near-mummified corpse of the late vicereinc adds a tooch of Psycho to the proceedings.

Over the tale of the wandering balladeer whisked off to be the Viceroy's favourite and her sturdy lover who refuses to become a mari complaisant the production pours a binliner-full of gags, some coarse, some corny, most high-spir-ited. Speciacular effects include a rubber-limbed lady contortionist and a mirrored wall that opens to admit an illuminated ataircase for an Act 2 curtain which throws in every joke in the book and several out of it.

As the lover turned reluc-tant busband (the swinging waltz chorus consigns him to a cell for "stubborn nobiemen" rather than the original's rainer than the original's "maris récalcitrants") Wolf-gang Ransmayr deploys a boy-ish light tenor well. The music sometimes plods, as in "Je t'adore, brigand," that absurdly cajoling declaration of love couched in terms of affortionate average of the second affectionate exasperation, which emerges as a rather heavy-footed landler. The total effect is that of *bierfest* geniality layed on with a trowel.

his unique eccentric personal-ity. He loves to tell stories, par-ticularly about his friends and

personal experiences. Among the most fascinating are his

prison stories, for be counts these days as "the happiest of my life." Later, released from

prison, yet without a profes-

sion to fall back upon, be entered npon the time-bon-

Martin Hoyle

Poppy

HALF MOON

Six years after on RSC premiere that left its author far from bappy. Peter Nichols

musical pantomime about the opium wars resurfaces revamped and revitalised at

David Ross

# The films of Sergei Parajanov **Ronald Holloway** on the current cult director

Only one other contemporary Soviet filmmaker is as well known outside of his country as Andrei Tarkovsky was -the Armenian Sergel Parajanov, born (1924), raised, and currently living in Tbilisi, Georgia. His films have been seen at all the recent interna-tional festivals including Venice, Montreal and Munich. His best known films are the

His best known films are the two that got him into deep trouble with the Soviet film authorities: Shadows of Our Forgotten Ancestors (1964), pro-duced at the Dovehenko Sta-dies in Kiev, and Sayat Noos (also known as The Color of the Pomegranate (1968). Paraja-nov's reckless supporters have insisted that the director's stubborn defence of "mictorial" stubborn defence of "pictorial" elements in both eventually led to three separate prison terms of nearly five years (plus an additional three years under a form of house arrest), but he was more than likely forcefully inactivated over a period of some 15 years due to his can-

shadows of Our Forgotten Ancestors is particularly well known to the international film public: it won no less than

early stages of production, it deals critically with the bitter realities of the Second World War. Indeed, if there is one Parajanov film that invites the status of a legend, then it is this: conceived and shot in a distinctive avant-garde style, its treatment is exactly the opposite of that exercised by directors of the contemporary

Parajanov's uncanny ability to "direct between the lines" of staid socialist-realism scripts presected to him during his early career scored as the

oured Georgian tradition of supporting himself as an sslf-styled "artist." Thus Munich could grace its retro-spective with a Sergel Paraja-nov exhibition of paintings, complemented by his care two complemented by his own two shorts on Thilisi painters: Akop Omatayan (1955) and Ara-besques on the Theme of Pirosmani (1986). FUmfest München celebrated Parajanov's visit with the world première of his Ashik

Kerib (1986), the third in an apparent trilogy of episodic, image over word tableaux-films that began with Sayat Nova and continued two decades later with The Legend of Suram Fortress (1985). So far as Ashik Kerib is concerned, a film inspired by a poem by Ler-montov, it has been sought after with mounting enthusiasm by the directors of Cannes ingenuity" takes him into partnership with Obadiah Upward, personification of the small tradesman made good (and master of o formidable grocer's sbop quartet).

Monty Norman's music ranges from jolly singalong with shades of London pub to cod-Dietrich - this last delivered by David Ross's outra-geous Lady Dodo shortly after she bas dismounted from a vice-regal elephant with (wc later learn in one of a myriad throwaway gags) a wandering proboscis, Nichols' use - and eventual subversion - of pan-tomime allows us a godiike Chineso overlord, who descends godlike in a cloud; a collection of baif-masked natives and a pantomime borse which lives well and truly up to its name, Randy.

But the exuberance disguises a real enough anger in what emerges as an impassioned condemnation of imperialism from the Falklands conquest backwards. The Chinese, as natives do, rebel; the Brits are blockaded in Canton; the fleet is dispatched and Hong Kong taken as reparation. In a series of really rather shocking images the laughter is cut short.

'be sort of venue it is made for - although the stark concrete expanse of Stepney's Half Moon Theatre is rendered almost unrecognisable by a set by Ellen Cairns of cardboard cnt-out opuleoce, scarlctswathed boxes flanking a proscenium arch overlooked on one side by a warrior queen Britannia astride ths globe, and on the other by s loosely draped wanton balanced on a poppy head. It is not hard to see how the piece would have found itself in alien territory at the Barbi-can: Chris Bood's revival is, on the evidence of its first night, undeniably scruify around the edges but it barnesses tha corny inventiveness of good old-fashioned pantomime in a way that could certainly not be written off as coy or preten-tions, allowing Nichols to hure his andience with spectacle, amuse them with an outra-

# this quiet celebration of some of her favourite works, it has been Miss Egerton's aim to demonstrate a continuing tratankerous ability to antagonies

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Palazzo Grassi. The Phoenicians. The fourth major exhibition at Fiat's imposing art centre on the Grand Canal attempt to give a complete picture of this

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formula film on the Great Patriotic War.

could produce results as intel-cal as this. The 15-piece pit band has the sound of a scratch salon orchestra, resources Offenbach would have known and catered for. One only wishes the production had taken more liberties with the music than Peter Fischer's arrangement tall, trim, with a light bari-tome. The reactionary vicenc-gal palace boasts a variety of archaic courtiers from peri-Peter Fischer's arrangement allows. A fresh satirical entertainment geared to the slender





sixteen festival prizes - none of which ever reached the film-maker himself. As for Sayat Nova, the film was taken out of his hands by authorities upon completion of the shooting in 1968, was edited for eventual release two years later by. friend and colleague Sargai Yuthevich, yet until now could only be seen in the West thanks to a mutilated copy ille-gally distributed by Annesty International. For film buffs, however, the

real treat in the enormously increasful and well attended retrospective at Munich was the presentation of Parajanova earlier features at the Dovzh-enko Studios in Kiev, including a 13-minute fragment of an aborted project begun after Shadows of Our Forgotten Ancestors and before Sayat Nova titled Kiev Frescoss (1966). Another feature produc-tion taken out of the director's hands, this tims during the Sergei Parajanov

major discovery at Munich. Presented in finely restored prints, three of these features - Andriesch (1954) (co-directed - Andriesch (1954) (co-directed by Yakov Baselyan), The Best Lad (1958), Ukrainian Rhap-sody (1960) - are remarkable for the purity of the colour prints, while the fourth, The Flower on the Stone (1962), cer-tifies that he was equally adept in black-and-white imagery as well, Each film, taken within well. Each film, taken within context, seems to have paved

the way for the making of Shadows of Our Forgotten Ancestors (1964), a film of folk-lore and legend based on the Mikhail Kotzubinski classic with its Romeo-and-Juliet story. Say what one will about the

misfortunes afflicting Paraja-nov throughout the seventies, an assessment of his career is impossible without a study of

und Venice, Montreal and Tel uride

Having viewed all of Sergei Parajanov's ouvre, I conclude that, without Shadows of Out Forgotten Ancestors in the first the right to transform herself place, there prohably never would have been a Prayer at will. This she does as her tale unfolds on Dick Whitting-(1967) by the Georgian director Tengiz Abuladze or an On the Eve of Ivan Kupala's Day (1968) ton (Josie Lawrence) whose yupple go-getting and "British by Parajanov's own Ukrainian cameraman-turned-director

Yuri Ilyenko. Arguably, too, an Andrei Rublev (1966/69) by Andrei Tar-kovsky may not have been possible either without the inter-national success of Shadows. Thus, when Parajanov at the première presentation of his Ashik Kerib requested a minute of silence in memory of Tarkovsky, it was a solemn moment of unabashed prayer that made the 1988 Munich festival unforgetable for all who participated in the Werkschau Sergej Paradschanow.

Aug 26-Sept 1

ficking in particular. Fairy godmother of the piece is Tina Marian's Queen Victoria, who announces in Thatcherite tones that she reserves

geons humour and finally huf-fet them with the unacceptable face of imperialism in general

and international drugs traf-

The company is vocally uneven and needs time to set-tle into its stride, but is unwavering in the spotlight it bolds up to the good queen's indefen-sible assertion: "We answered a demand."

**Claire** Armitstead

#### New season at the Young Vic

for Measure, an exploration of Shakespeare's play using five actors directed by Martin Jameson – who will also The Young Vic opens its 18th birthday season on October 6 with the London première of Arthur Miller's adaptation of direct the company's Christ-mas production, David Hol-man's adaptation of Charles Henrik Ibsen's An Enemy of the People.

Directed by David Thacker, Tom Wilkinson will play Dr Thomas Stockmann.

Dickens' A Christmas Carol. On December 11 a Gala per-formance is planned to raise money for the proposed exten-sion to the theatre building. Autumn plans also include An Investigation Into Measure

#### SALEROOM

# Record for Scottish artist

Carte Musées et Monumen sold in museums and Metro sta-tions, enables visitors to avoid quenes at 60 museums and monuments, including the Louvre, Musée d'Orsay and Versailles Palace. Centre Georges Pompidou. The

EXHIBITIONS

Paris

**ARTS GUIDE** 

Fifties, taking over Beaubourg for three months from the

ar three months from the ground floor upwards: The pos-twar creative dynamism of the Fifties is represented by cars, comics, music, cinema, litera-ture, industrial creation and - on the fifth floor - by visual aria. The great figures of Matisse and Picasso open the exhibition with works in black and white: monochromes by Yves Klein and Montana close it. There are stat-Montana close it. There are star-ues by Giacometti, inobiles by Calder, and lyrical abstraction by Hartung and De Kooning. While contrasting the School of Paris with the School of New York, the exhibition equally draws attention to some of their parallel developments. (42,77,12,38). Closed Tue. Ends

(d2,77,12,33), Cassed Tule Ratin Oct 17. Institut du Monde Arabe. Holy Places in Saudi Arabia. Magnifi-cent architectural models of the Raaba in Mecca and its black procede vell with verses from the Kenne unbroidered in cold.

mocade vell with verses from the Koran embroidered in gold, and of the Prophet's great mosque in Medina, provide non-Moslems with a realistic image of the shrines of klamic playin-age, to which they normally have the access Manuarchite works by the traveller Richard Burton and 17th century Turkish ceram-ics complete the arkibition 23 Qual Saint-Bernard (46.34.25.25). whiltition 23 -----

عادية بالالا ومهجا بما المتقيد والإمل الديني والدفني

1 pm till 8 pm, closed Mon. Ends Sept 18. Munich

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Hans der Kunst, 60 Prinzre-gentstr. An important exhibition, gentstr. An important exhibition, centred on the city of Munich, which provides a broad view of the West German cultural scene. There are about 640 works - paintings, graphics and plas-tics - by 470 different artists, including over 100 women. Twen-ty-two works by the Austrian painter and sculptor, Alfred Hrdlicka, form the highlight of the show. The exhibition is organised by three group of art-ists. Ends Sept 11. Wieners

Vienna Museum of Modern Art/Museum

of the 20th century: Exhibition of Swald Cherinder, one of Austria's finest artists. Opens September 9. The Anstrian National Library, The Arab world in Europe A matually collection of latters

marvellous collection of letters and other literary items, Ends October 16.

sand on the ground floor of the Palazzo; in an upstains room, model ships stand immobile in a rippling stifficial lake, and a huge polystyrene wave engulfs a Phoenician wreck. Many of the 1,200 objects displayed (gold and silver jewellery, statues and reliefs in terracoita, bronze and ivory) are extraordize, bronze and ivory) are extraordized, bronze and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery, statues and ivory) are extraordized (gold and silver jewellery) are extraordized (gold and silver jewellery) are extraordized (gold and silver) are Hermes Villa. Portraits by the fin-de siècle artists, Gustav Klimt and Emilie Floege. Ends Feb 19. Secession. Klimt's Beethoven Secretion. Klimf's Beethoven Frieze is now back in its rightful and original place in the restored Secession. The Secession was founded by a group of artists, Klimt included, at the turn of pre-Columbus, 140 powerful and disconcerting works lent by major Mexican museums, dating from the 2nd century BC to the Spanish conquest of 1521. Ends the century. At the time, it prowided a haven and experimental ground for artists who were tired of the eld established and conser-Sept 4. Roote.

Academy.

# vative Kunstlerhaus or arts

Palazzo Venezia, Imago Mariae. Over 100 works, including mas-tarpieces by Gentile da Fabriano, Pinturiochio, Corneggio, Gia-quinto and Tiepolo, showing the progressive humanisation of the Academy. Visitors to Vienne must see the work put into the restoration. Besides the excellent lighting and colour scheme, the furniture, all Austrian designed, is a real 

Virgin Mary from the austere figure of the Middle Ages to the gentle and accessible charm of the Renaissance and Baroque eve-opener on the wealth of cre-ativity which is taking place among the small crafts industries which have spring up in recent years. portrayals. Ends Oct 4.

#### Martigny

The Glanadda Foundation is showing the second part of trea-sures on loan from the Sao Paulo Museum. Entitled From Manet to Picasso, it is especially rich a complete picture of this entrancelinary people, who domi-nated trade in the Mediterranean for over 1,000 years before their capital, Carthage, was finally destroyed by the Romans in 146 BC. The exhibition has been when a bight theattical presenin Benoirs, from society portaits and little girls in frothy lace and pink and hive satin, to a fleshy pink and hime satin, to a lieshy nucle. Van Gogh, too, is well rep-resented with his famous Arle-sienne and landscapes with tor-mented trees. There is Cérame's portrait of his wife, a Tahiti scene by Gauguin, early Picassos and Manet's Marie Lefebvre, itd-ing side saddle all clad in black and holding as seductive as Bongiven a highly theatrical presen-tation by the architect Gae Atlenti. Sarcophaghi project at odd angles from a pile of pink sand on the ground floor of the and looking as seductive as Bon-nard's appealing nude or Degas' ballet dancers. (23978). Ends Nov

#### New York

American Craft Museum. An ambitious exhibition traces the history of American architecture back to the turn of the century, and emphasises the work of artists like Tiffany, Lawrie and Louise Nevelson who were com-missioned to add art to the architecture. Ends Sept 4.

#### Washington

National Gallery. More than 80 mesterworks, from the superb 18th-18th century collection of Munich's Alte Pinakothek, include paintings by Rubens, Rembrandt, Titian, SI Greco and Van Dyck. Ends Sept 5. National Gallery (East Wing).

To mark the 350th anniversary of the first Swedish colony in North America, the exhibition North America, the exhibition covers four Swedish monarchies in the 16th and 17th centuries and shows Sweden as a resplen-dent and aggressive world power through objects and 100 paint-ings on loan from the Royal Treasury, the National Museum and the royal collections. Ends Sept 5. Sept 5.

#### Chicago

Art Institute. Photographs by Josef Sudek. Using his native Prague as the background, this avant-gards photographer, who died In 1876, captured the lyrical quality of the Czech people and the country's beautiful land-scapes. Ends Sept 5. Art Institute. More than 50 Dutch and Flemish 17th century masterpieces from the Harmitage matarpieces from the Harmitage in Leningrad, including works by Rembrandt, Rubens, van Dyck and Frans Hals, kick off a collab-orative effort by US and Soviet ms Ends Sept 18. Tokyo

Tokyo National Museum. The Splendour of Turkish Civilization: Ottoman Treasures from the Topkapi Palace. The former Seraglio of the Sultans in Istam-bul boasts a magnificent locaout coasts a magnificent tota-tion, overlooking the Bosporus, and houses a superb collection of classical antiquities, manu-scripts, armour, textiles and other artefacts. This selection of 150 items focuses on the hey-der of the Ottoman Forume for day of the Ottoman Empire, from the 16th to 19th centuries. High-lights include a steel beliest incrusted with priceless rubles, turquoises and amethysts, and a wooden throne inlaid with

ebony, mother of pearl and sil-ver. Closed Mondays. Teien Museum, Meguro. Masterworks from Europe. As a result of the strong yen, Japanese col-lectors, both public and private, have been on a spending spree recently. This exhibition draws together some recent acquist-tions and, though aimed mainly at Japanese children, it provides an opportunity to assess currer Japanese taste in Western art. s current This seems to be basically conservative, with an emphasis on Impressionism and Post-Impres-sionism. The 69 works on show range from Renoir at his most range from kenor at his most sectimental to late Picasso litho-graphs and a selection from Matisse's mighty Jazz series. The moseum has a superb Art Deco interior and a pleasant gar den. Closed August 24. Ends September 4. National Museum of Modern Art. The Image of Man in Mod-

ern Japanese Art. Individualism is not generally admired in Japan, so portraiture, in the sense of the portrayal of individual psychology, is not part of the artistic tradition. However, in modern times, a number of in modern times, a number of Jspanese painters have grappled with this problem with varying degrees of success. This exhibi-tioo features portraits and other works in which the human figure is predominant - all executed within the last 100 years. Closed Mondays. Ends Sentember 9. within the last 100 years. Closed Mondays. Ends September 9. Japan Folkcraft Museum (Nihon Mingeikan), Komaba. Crafts from India. The museum is in an old Japanese farmhouse building which accords perfectly with tha unselfconscious beauty of the objects. Closed Mondays. Ends September 25

Sotheby's had the time of its life at Gleneagles Hotel on Tuesday night selling off Scot-tish pictures for a record £2m, with a painting by Francis Cadell making a remarkable Cadell making a remarkable £214,500, easily an auction record price for any work by a Scottisb artist. The previous best was the £165,000 paid for a solid Raeburn portrait at Christie's in 1982. • Cadell, famous as one of the

four Scottish Colourists, had trained in France and was much influenced by the post-Impressionists. "Afternoon," his 1913 composition which set the new record, shows genteel ladies taking tea, with bright flashes of lime, pink and orange jumping out from a white background. It is the best Cadell to appear on the market for years, and it beat his previous high of £44,000. It was bought by a London dealer.

The finest Scottish paintings of the early 20th century have been rising steadily in price as its genius has become better known internationally: there are now Japanese and Ameri-cans collecting Colourists, as well as many of the new Brit-ish ricb, English as well as Scottish. It is taking over from the Newlyn School as the latest collecting trend. Even so, Tuesday's sale surprised Sotheby's: its top estimate on "Afternoon" was £80,000, Obviously the summer break in auctions has starved the deal-

ers of quality paintings. There were three more major artist records - £44,000 paid by a local dealer for "Adrift," depicting children aboard a makeshift raft, by the leading late 19th century Scottish landscape artist William McTaggart; £41,800, way over esti-mate, for a typical Archibald Thorburn bird picture of mallard and teal in the snow; and £30,800 for "In a bluebell wood" by George Henry, one of the "Glasgow Boys," contemporaries of the Colourists.

raries of the Colourists. The other great Colourists is Samuel Peploe, and in April one of his Matisse like paint-ings made £127,600 at auction. On Tuesday three good works by him, two still lifes of flow-or and one of farit cold comers and one of fruit, sold comfortably above estimate for £90,200 (to London dealer Whitford & Hughes); £83,600; and £58,200, (to the Scottish Gallery of Edinburgh. Another Glasgow Boy who

has attracted Japanese interest is Edward Atkinson Hornel, and "The wonder wood," a rather formulaic portrayal of two young girls in a forest, was near the top of its estimate, selling for £45,200 to the Gerber Gallery of Glasgow. A feature of the auction was the consistency of the buying; only 6 per cent was unsold, making it an excellent omen for the new saleroom season starting in late September.

**Antony Thorncroft** 

14 **FINANCIAL TIMES** 

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Thursday September 1 1988

# Lessons of the Karin B

THE SPECTACLE of the Karin B sailing, like the Flying Dutchman, up and down the high seas with a cargo of dangerous chemicals should concentrate politician's minds onto one firm imperative. Shipments of toxic wastes, particularly those which can persist in the environment, should not be exported from industrial coun-tries to the Third World. Proper disposal requires expen-sive plant and strict controls.

Avoidance of these controls by dumping in Africa and else-where in the Third World, is not only morally indefensible but very short-sighted. The inglorious voyage of the Karin B shows why. It is carrying a cargo which was illegally shipped from Italy to Nigeria, where it was dumped on open ground, hut removed after strong pressure from the Nigerian Government, Since then it has been wandering the high seas without proper documentation looking for a con-tractor to take the embarrass-ment off its hands. But for the interest of the media, it might have ended up somewhere in Britain.

The daylight of publicity will be had not just for the Italy, but for the European Community as a whole, because most member countries have failed to carry out an EC directive on traos-frontier shipments of hazardous wastes which should have been implemented 18 months ago. This directive forbids the export of any such chemicals unless the country of origin is satisfied that the importing country agrees to accept the cargo and that the shipper has a valid contract for its proper Member countries should waste no more time in enacting laws which follow the spirit of the directive, as the UK has now pledged that it will do.

#### **Corruption danger**

Then the EC should follow the lead of some US politicians. and support pressure in the United Nations to find ways of banning all exports of hazardous wastes to third world countries. The latest EC directive, if

officials in receiving countries will limit its effectiveness.

Tighter controls on exports and episodes like the voyage of Karin B - will intensify public pressure for stricter controls over disposal in the EC. But higher costs will create even greater incentives for the smugglers to exploit countries too poor to say "no." That is why the responsibility to improve standards of disposal

and to prevent unjustified exports must be interlinked. Serious donhts remain whether standards of disposal within the EC are consistent and high enough. Ministers need to satisfy the public as well as themselves that the best practice is adhered to and that companies cannot avoid the law by, for example, using landfill sites for substances which should be incinerated. Fears expressed by environ-mental lobbyists that reporting systems for hazardous wastes are inadequate should be taken seriously, for careful monitor-ing must be the foundation of enforcement

#### Net importer

In Britain, which is a net importer of wates and has a reputation for being tardy about environmental protec-tion, the Government needs to be particularly vigilant. The Government's sharp U-turn just before the last election over the testing of sites for burial of nuclear wastes shows the power of popular opinion on such matters. Yet the chemicals like those

on the Karin B must be dis-posed of, and this could be done safely in the UK, West Germany and other countries of the EC. Since special sizes are required, some trade in wastes within Europe is inevi-

table and even desirable. But this must be on the basis of common rules enacted by all and strongly enforced. All member governments should implement the EC directive by the turn of the year - two years behind schedule. Meanwhile pressure should be exerted on the Italian anthori-

our years ago, Marc Rich & Co appeared to he virtually dead in the water. A protracted court case had crip-pled its US business and cost tha company close to \$200m (£116m) in fines and other pen-alties. Commodities markets were dull and destined to

become more so. Mr Marc Rich and Mr Pincus "Pinky" Green. the company's founders and leading lights, were wanted in the US on tax evasion charges. Today, Marc Rich is a highly profitable trading company with a \$15bn turnover which buys and sells more metals than any other in the world. Among commodities dealers, it is probably bigger than all but Cargill, the largest private company in the US. In addition to its mainstream activities, Mr Rich's company lends money to minerals-producing Third World countries. Among its assets are a 50,000 barrels per day oil refinery and a 250,000-tonne oil tanker.

The charges against Messrs Rich and Green are still pend-ing, however. This means that tha pair must continue to tha pair must continue to avoid countries where tax eva-sion is an extraditable offence, and are forced to forgo some of life's simpler pleasures. For Mr Rich, one of the wealthiest and most powerful commodities traders ever to have lived, eating an American-style hamburger is a memorable experience.

Mr Rich – now a Spanish citizen – discussed the remarkable turnaround by his usually highly secretive organisation in a rare interview at the company's Swiss headquar-

For the nerve centre of a sophisticated multinational corporation with 37 offices and 1,200 employees, this headquar-ters is surprisingly modest. A six-storey blue glass box, sur-rounded by soma desultory fountains, it sits next to the railway station in the well-heeled, well-scrubbed and exceedingly provincial Swiss town of Zug. Over the years, Zug has become a veritable Mecca for the metals trade due to its peerless reputation for discretion and its exceptionally low taxes. Similarly, Mr Rich himself --

a alim figure of average height with thinning dark hair and an ever-present cigar - is far from the glamorous stereotype of a master trader. Piercing eyes framed by unfashionable sideburns, plain suit offset by an unfashionably wide tie, he speaks slowly with frequent

# Alchemist at large

David Owen talks to controversial commodities trader Marc Rich

A CARLES AND A CAR

A STATEMENT STATEMENT

Green to leave the company and set up on their own account in early 1974. The new company grew with extraordi-nary speed. In 1980, a banner year aven for Rich, profits totalled approximately \$300m. Then in 1962, US prosecutors

They laid in to spoll the party. They laid subpoenas against the group, alleging that Rich had broken federal oil-price regulations in 1980-81 and shipped the profits back to Switzerland to avoid paying US taxes. The following year, Mr Rich, Mr Green and Marc Rich International (soon to be renamed Clarendon and sold to renamed Clarendon and sold to a third founding partner of Marc Rich & Co Trading, Mr Alexander Heckel) were indicted on charges of racketeering, fraud. tax evasion and illegally trading with Iran. The alleged unpaid taxes, which amounted to \$48m, were described by Mr Rudolph Giuli-ami, US District Attorney at the time, as "the largest tax evasion scheme ever prosecuted." After two years, the US gov-

ernment agreed to drop ths racketeering and Iran-linked charges and convert the frand charges to a less serious offence. In return, the Swiss parent company and Clarendon aded guilty to 38 counts of making false statements to fed-eral anthorities, and Clarendon to two counts of tax evasion. The deal enabled the company to resume operating in the US

While this type of relatively low-risk physical business is the bread-and-butter of tha group's trading activity, Rich is certainly not averse to spec-ulation. The company makes and loses millions from price fluctuations such as those which hit aluminium earlier this year. this year. Speculation is one area, how-

ever, where the group's inner anctim - comprising Mesers Rich, Green, Hackel and Mr Felix Posen, head of the London operation - retain a tight grip. The quartet vets all decl-sions to expose the group to market risk. "The rule is that when commodities are hedgeawhen commodifies are hedgea-ble, they are automatically hedged," says Mr Rich. "The profitability of our company is based on physical business not speculation." With a view to securing the long-term raw materials con-tracts on which its trading strategy depends. Rich is pre-

strategy depends, Rich is pre-pared to provide financing to various minerals-producing countries. Ecuador, Brazil and the Philippines have all struck deals of this type with Rich in recent years. So has Jamaica - an important source of bauxite and alumina, crucial

raw materials in the manufacture of aluminium. Since 1960, the company has

Since 1960, the company has lent Jamaica varying amounts on an ongoing basis for several purposes. For example, it has pre-loaned money due at a later date from the US govern-ment in payment for bauxite and alumina; it continuously ura-finances deals, by lending London's attitude to the brothers has as much to do with image as with substance. There is a lingering feeling in the square mile that advertis-ing is a brash, aven vulgar, trade — a view which com-pounds the City's irritation on finding itself set up — or outpre-finances deals by lending money against future product delivery; and it lent the island money to acquire the 15,000 bpd local oil refinery from points the City's infiance on finding itself set up - or out-smarted? - by Saatch's recent £177m rights issue. Add to that a marked distaste for the

The group is split into three commodities divisions - crude oil and petroleum products, metals and minerals and grain - together with a finance and investment unit which has doubled in size in the past three years.

The importance of energy has declined along with the oil price. But it remains the company's largest division with an estimated annual turnover of \$7bn. "We trade between 800,000 and 1m barrels per day

of crude oil," says Mr Rich. Over the past 18 months, the metals and minerals unit, with annual turnover of between \$5bn and \$5bn, has become the company's main engine of growth. In recent times, according to Mr Rich, the division "has surpassed oil in terms of profit."

Investment activities range t. Ioreign exch

FINANCIAL TIMES THURSDAY SEPTEMBER 1-1988

# **BOOK REVIEW** Establishment anti-heroes

ARTIN SORRELL, chairman of WPP, says that when he first heard of Saatchi & Saatchi THE BROTHERS: The Rise and Rise of Saatchi & Saatchi in 1975, he "thought it was a By Ivan Fallon hinson, £12.95

> sich other's enthusiasms, that they operate as one.

Step by step, they have defined the objective, worked out how to achieve it, and then done it. Fallon finds the pro-cess "chilly." "They wanted a public company and they got one; they wanted to be number one in Britain, and they got there. They wanted a major American advertising com-pany, and they got that. Then they set out to become the world's number one, and they got there, too."

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The Saatchis always believed that being hig was important, an instinct supported by their experience in the early days, when they could not get the big accounts because their igency was too small.

Fallon tends to support the view that their often ruthless preoccupation with size and power was only later given the gloss of philosophical justifica-tion. by embracing, for instance, the "globalisation of markets" theories of Professor Ted Levitt, et al.

. It is probably nearer the truth, too, to say that tha Sastchis have made a management virtue of their own low boredom thresholds and thirst for new challenges. A. 16

That said, it has to be con-ceded that the brothers, throughout, have shown a remarkable flair for picking the right peopla to take on both creative and management tasks on their behalf.

The qualities that the Saatchis have demonstrated in achieving their present pre-em-inence in the industry, as Fallon suggests, have to be set against the scepticism about the brothers' philosophising and their future strategy for. building a "services supermarloer \*

As recently as March this year, Maurice Saatchi was reiterating his belief that, in the future, the hig global compa-nies would want all their ser-vices around the world from the same company - not just advertising bnt banking and management help as well.

ered momentum where other traders have lost it by having-both the confidence and the financial muscle to continue raising the volume of materials handled while competitors were cutting back. Unlike most competitors, the company was prepared to accept razor-thin margins for the sake of future

market share. A handful of buoyant commodifies and strong earnings in property, stocks and bonds notched up by the group's fastgrowing finance division belped Rich remain narrowly in profit throughout the mid-

The group's profitability was also helped by its preparedness to trade "wherever it is legal to trade." According to Amster-dam-based Shipping Research Bureau, at least 32 shipments of Marc Rich-owned crude oil were identified in the process of delivery to South Africa over the eight years to 1987. Rich usually attempts to "broaden its market presence"

by dealing in each stage of the production chain from raw material to processed commodity. In energy, the group trades anything from crude oil to petroleum products. In metals, it trades ores and concentrates, as well as the base and light metals into which they are

Rather than sell the raw materials in its possession to refineries and smelters, Rich often prefers to negotiate

m 1975, ne "mought if was a new Japanese hi-fi firm." Nobody is likely to make that mistake today. As Ivan Fallon recounts. Charles and Maurice Saatchi-have together transformed the advertising industry on both sides of the Atlantic. Starting. with £25,000 in 1970, the tional business with a turn-

over, after 17 years of uninter-rupted growth, of nearly 54bn and pretax profits last year of £124m. Over the past 10 years, Sastchi & Sastchi's client base has grown to more than 10,000 companies, including half the world's top 500 corporations. Its earnings per share have increased by an average of more than 36 per cent a year. In Britain, the Saatchi & Saatchi agency not only ranks.

first in turnover and profits.

but wins more creative awards than any other. This year, so far, it has also gained £87m worth of new business, three

times that of its nearest com-

Yet for all these achieve

ments, Saatchi's shares on the London Stock Exchange lan-

It is difficult to avoid the conclusion that tha City of London's attitude to the

rothers' overweening ambi-

tion in contemplating take-overs of Midland Bank and Hill

Samnel, and you begin to.

understand why City gather-ings of the Sastchi fan club are

Fallon's sympathetic view of

the Seatchis provides a differ-ent perspective. The deputy

editor of the Sunday Times

given the brothers' reluctant

co-operation, fleshes out their

reclusive image. Ha explores their back-ground as haqi-lewish immi-

grants; chronicles the early

days as a creative advertising "hot shop"; recalls the innova-tive advertisements that

not overcrowded these days.

guish on a lowly rating.

petitors.

most undesirable dumping, but ity for the Karin B's obnoxious corruption by shippers and by cargo.

# **Pinochet** stakes **Chile's future**

THE SELECTION of General Augusto Pinochet as the single candidate in the forthcoming plcbiscite for the presidency at least has the merit of providing Chileans with a choice. This is to vote out of office a man who has ruled the country une-lected for 15 years.

Beyond Gen Pinochet's own future, the vote on October 5 will determine the political shape of the country for the next decade or more. If the General wins, he and his supporters will interpret the result as legitimising both the previ-ous years of repressive military rule and a future which at best could be called guided democ-racy. If be fails, he will immediately lose the mystique of authority. The initiative will pass to the political forces in the opposition, and the constitution is ill-equipped to cope with such an eventuality.

The 1980 constitution, tailor-made for Gen Pinochet to perpetuate himself in power, envisages that he will continue his current term as President through to March, 1990, even if he loses the plebiscite. If he wins, he could remain in power until 1998, hy which time be will be well into his 80s. Meanwhile, the military, the ulti-mate arbiters, have built into the constitution an important power of veto over the deliberations of a prospective national assembly. Thus whatever hap-pens the situation is a recipe for uncertainty, if not instabilltv.

#### Self-appointed saviour

Gen Pinochet has made no secret of his desire to run as the candidate, genuinely believ-ing in his self-appointed role as a national saviour who wrested Chile from the evils of Allende's populist Marxism and who has laid the basis for a prosperous society. By leaving the selection process until the last minute, the four-man junta (of which he is part), excluded virtually any option save that of Gen Pinochet. Not to have stood now would have been interpreted as an admission of his own inability to muster the votes.

Nevertheless Gen Pinochet is standing against the better judgment of several of his civilian and military supporters as well against tha pleadings of respected bodies like tha

Roman Catholic Church - to say nothing of the views of Western governments. Ha is a confrontational and divisive candidate. He plays upon crude instincts of fear, constantly reminding Chileans of the economic and political chaos of the final Allendc days. This message has waning public appeal and the opinion polls suggest he will be hard put to

### States of emergency

Having resorted to continuous states of emergency throughout his rule on tha grounds that the state is under threat from irresponsible politicians and communist subver-sion, it is hard to believe be can now provide a peaceful transition from dictatorship to democracy. Indeed, while Chile is a pace-setter thronghout Latin America for economic reform, and secretly admired as such, its political regime is distinctly out of step with the regional trend towards demo-cratic and accountable government. Chile needs to work towards national reconciliation because in the end the economic progress achieved lat-terly under Gen Pinochet cannot be consolidated without political consensus.

Unfortunately such considerations have gone by the board, at least for the time being, and the main task now is to ensure a clean election. It cannot be called fair, because the regime

called fair, because the regime has laid the ground rules, from deciding on a single candidate to the extraordinary mecha-nism of permitting the incum-bent President to remain in office for a further 18 months tional union weapon, and Tuf-fin and the UCW know how to use it. They did so just before Christmas when an after the vote. Passions are bound to run high because indefinite national strike was threatened and the union won Chile's political future is at stake, and the lid has been clamped so tight on political activity for so long. Here the onus must be on the Pinochet regime to behave responsibly, by clying tha concessions. One of the sur-prises of yesterday's action was that it happened at all; someone went over the brink. Relations between the UCW

responsibly, by giving the opposition a real chance to state its case. Gen Pinochet has always been dismissive of international pressure but if he wishes to be considered a legit-imate victor or an honourable loser, he must rein in the secu-

Unlike many union leaders nowadays, Tuffin still cuts a commanding figure in the head office of the principal employer with which he deals. Tuffin himself is a genial rity forces which for far too long have sullied the reputa-54-year-old south Londoner tion of what was once a nation highly respected for its demo-cratic traditions. who started work for the Post Office at the age of 16 as a tele-

es. seidoi оге three sentences at a time. Born Marc Reich in Antwerp in 1934, Mr Rich fled from the

trading talents.

the top

Tuffin over

Whatever else they do, strikes provide abundant pub-

licity for their leaders. When

national strike action 17 years

stood out. Now it is the smooth

oval face and monk's haircut

of Alan Tuffin, his successor.

Despite yesterday's 24-hour strike and the prospect of more to come, Tuffin is probably

the best current example of that traditional union figure, ths rejuctant militant. While

local-level industrial action

has been considerable in the

his reputation is that of ana-

tural and cautious moderate,

trying to reach a negotiated solution to industrial relations

Some PO managers believe

that in doing so Tuffin andthe leadership of the Union of

Communication Workers thus get the best of both worlds:

get the best of both worlds: negotiated settlements at national level, driven along by the draining, disruptive effect of unofficial local-level

Brinkmanship is a tradi-

nd the PO are sometimes seen

by outsiders as too cosy: like

those between the farmers' union and the old Min of Ag.

gram boy. Despite operating

problems

actio

PO's letters division this year,

ago, it was the beaming fea-

taches of Tom Jackson that

postal workers last took

charges against Messrs Rich and Green themselves. Nazis with his family seven Less than four years after years later. After an undistin-guished school and university the court case which paralysed its American operations, the company claims that its US career in Kansas City and New York, he joinad Philipp business is now "bigger in all areas than it has ever been." Brothers, another large commodifies house, as a mail-room clerk in 1953. Within ten years he had established himself as

Earlier this year, the Swiss parent bought back from Mr Hackel a 49 per cent interest in one of the company's foremost Clarendon, although this is unlikely to presage a return to full ownership of the US affili-A dispute over bonus payments and other matters prompted Messrs Rich and ate.

In a nutshell, Rich has gath-

ically excluded dropping

**OBSERVER** 

only in a nationalised industry,

he has been at the forefront

to draw up a new, private-sec-

tor influenced blueprint for the future of such industries.

He is also is the union leader

who has tried hardest to come to terms with the spread of

another battle on his mind. On Saturday, at an army camp

near Bournemouth, he is due to lead the TUC's General

gress cricket match against labour and industrial corre-

Soldier Magazine, the fort-

sweatshirts emblazoned: "There's something about a

Soldier." That is undoubtedly true, but it seems an odd time

for the MoD to be asking off-duty men to proclaim it in pub-

**Opera** fashion

Paris's new opera house at the Place de la Bastille is due

to open next year, but there

have been so many rows over both its architecture and its

purpose that no-one has been very sure what it will end up doing. At least it now has a

Pierre Berge, chairman of

the fashion group Yves Saint Laurent, was named yesterday

by the government as chair-

man of a new body running not only the Bastille Opéra,

but also its senior sister, the Opéra de Paris in its Garnier

Brave front

Council in the annual pre-Con-

employee share ownership,

though PO workers do not

have them - yet. Meanwhile be may have

of labour movement efforts

ed. However it specifi

and bond trading to commodi-ty-related and property acquisi-tions. Rich's best-known and long-term processing contracts which enable him effectively to rent a portion of a plant's refinmost surprising purchase was that of a half-share in the film ing capacity and to retain control of the finished product. By company Twentieth Centurythe pays for raw materials and the processing fee fluctuate in line with the relevant terminal For in 1981. "We considered it market, the company can guar-antee its margin by hedging its projected refined commodity holdings with futures and options. This enables Rich to

establish ahead of time the minimum price which it will be paid for its commodities.

thing.

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a good real estate business," Mr Rich explains. With all four senior partners now in their 50s, Mr Rich says that provisions are being made for "younger people" to take their place. He scotches any suggestion that he might retire, however. "I like my work too much," he says.

helped enlarge their reputa-tion; and gossips spiritedly about their relationship with Mrs Thatcher's Conservative The Seatchis' plans for mov-ing into financial services may have to be deferred until their Party, from the brilliant successes of the 1979 general election to the bitter backbiting of rating in the City improves. 1987.

But it is their relentless But the drive into mana quest to be higger, and higger again, that Fallon finds com-pelling, and which he seeks to consultancy continues. With ambitions focused,

resources committed, and Charles was the initial, cre-ative and fiery driving force; Maurice, the charming but, given their record, it would, says Fallon, be a brave man who bet against the Saatchi clinical and disciplined husibrothars scaling greater nessman, who has come into heights. his own as the company has expanded. But the two are so close, so bound together in

**Philip Rawstorne** 

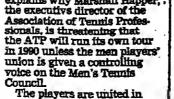
their stand against what they regard as the excessive influ-ence of the International Tennis Federation where they claim that they are always out, voted by the tournament directors. In fact, the lobbying that goes on between the players JUNG + CO. and the directors behind the The Island cenes usually means no such KING + CO. TTT The real points are power KING - CO and money. The players want the four Grand Slam champi-onships to pool their TV rights so that the whole men's tour can be better marketed. ITF MANEEMENT TIT KING + CO KING 2 CO. and Grand Slam representa-tives believe it is essential to ATINA KINGLO retain control of these reve-nues which fund the games in Australia, France, Britain KING 200 PROBLOM TTT and the US and contribute to tennis in the third world. months' time. There could the Don't despair, an independent company of Chartered Surveyors deals with all these problems under one roof. () King&Co 01-493-4933 Stratford Place, London W1N 9AE

Also at Birmingham Edinburgh Letids Manchester Brussels

spondents. Past form suggests that he should be on the win-ning side; Post Office husiness, however, could keep him away. BANX "It's the Italian Amba to see you, Ms Bottomley." building, and the Opéra Cominightly publication by the Min-istry of Defence for the army, is currently carrying an adver-tisement for T-shirts and

rent 30 years ago and has retained the reputation of an aesthete. He is credited with launching the painter Bernard Buffet. His heart is also in the right place for the current socialist government: he is one of the principal benefactors of the anti-racist movement, SOS Racisme,

Buzzer's serve After 20 years of open tennis the game is facing a crisis of success. There are so many tournaments and sponsors chasing too few calendar weeks and star players that no-one is satisfied. That explains why Marshall Happer the executivs director of th Association of Tennis Profes-sionals, is threatening that the ATP will run its own tour



Real power Full marks to London Elec-tricity. I called them at 8.35 on Tuesday morning about a non-dangerons fault at home. An electrician was round by 9.15 and the work done by 9.30. I was about to pay a similar compliment to British Tale-orm which has been invitell. com, which has been unfailingly prompt in repairing the telephone when occasionally out of order. But yesterday I ordered an slarm call and

it did not come.

Breaking up Sign in a derelict garden: "Crazy paving is not all it's cracked up to be."



A climax may come today when the four Grand Slam chairmen, including Buzzer Hadingham of Wimbledon, hold a press conference. They have already said that they will take a strong line, so a split seems inevitable in 15

be two rival circuits.

# qoe. Bergé entered the fashion business with Yves Saint Lau-

t often pays to examin nnfashionahle o or neglected problems. Now that the focus of most attention is on inflation, overheating and the balance of pay-ments, it is a good time to re-examine nnemployment, a problem that has far from dis-

Problem that has far from dis-appeared. UK official statistics show a 900,000 fall in the number of UK jobless from a peak of 3.2m in 1986 to 2.3m on the July count. A substantial part of this fall is undoubtedly genu-ine, over and above the effects of more stringent tests epplied to benefit spplicants, and reflects the economic boom. Nevertheless edult unem.

Nevertheless edult unem-ployment still represents, even on official definitions, 8.2 per cent of the workforce. Neither the number nor the percentage would have been thinkable 10,

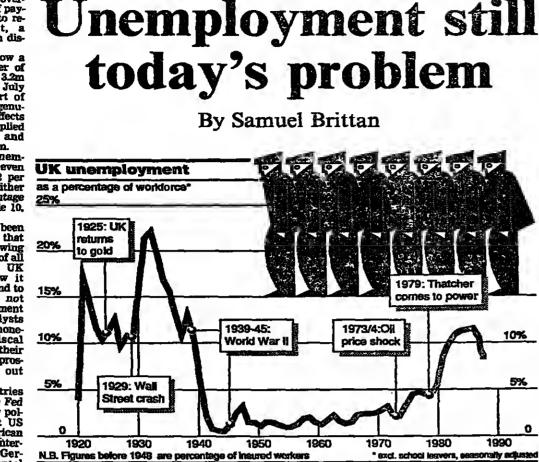
let alone 20, years ago. Moreover we have all been told loudly and officially that the economy has been growing too fast and the intention of all the recent increases in UK interest rates is to slow it down. Success here is bound to reduce - let us hope not reverse - the memployment decline. If the City analysts who want still tighter mone-tary policy, and a fiscal squeeze in addition, have their way any orthogen on the way way, any optimism on joh pros-pects would be snuffed out

even more quickly. In most Western countries the picture is similar. The Fed has tightened up monetary pol-icy because of alarm et US growth. But at least American unemployment is low by inter-national standards. In Germany and other Continental countries, interest rates have been raised (and in Germany increases in consumer taxes promised) even though unemloyment remains stuck on a high plateau. In these circum-stances a synthesis and interpretation of recent research on unemploymant, given as an inaugural lecture by Professor Christopher Pissarides at the London School of Economics, repays attention (Centre for Labour Economics, LSE Discussion Paper 304, March 1988) Looking at British unemployment over several decades, Pissarides makes two general-

isations Neither changes in producdemand, affect memployment in the long term. Those who believe that rapidly increasing labour productivity destroys jobs (that is those who embrace the lump of labour fal-lacy), and those who regard high productivity as a spur to job creation, are equally wrong. Over the years, changes in labour productivity are reflected in output not jobs.

• The big charges in unem-ployment take place in short bursts. Most of the time it is

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the main argument.

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ECONOMIC VIEWPOINT

fairly stable. There was a big fall in unemployment in the late 1930s and the early war period. The level then remained low and stable until the late 1960s, after which there was a rapid, but modest, rise. There was another not so modest jump around 1974 and a really big rise in 1980-81. In the intervening periods unem-ployment was surprisingly sta-hle. Since 1986 there has been a rapid fail (too late to be taken fully into account in the lecture) which will not go on too much longer at its recent rate.

Concentrating on experience since 1979 under the Thatcher Government, Pissarides poses three main questions. What the economic shocks were behind the phases of change? What were the forces that transmitted these shocks to unemployment rather than to other variables? Finally, what caused the new levels of unemployment to persist for so long once the shocks were over?

His explanation of the post-1979 shocks is familiar. There was a demand shock (strictly speaking a surprise slowdown

in the growth of nominal demand). Pissarides attributes sisted for so long after the initial shocks. One reason may be that the long term unemployed become "discouraged workers." this to tight internal fiscal and monetary policies. I would be more inclined to ettribute it to They withdraw from joh search the sharp rise in both the nomand employers are less inclined inal and the real exchange rate to hire them.

A further reason lies in changes, not in social security benefits, but in public attitudes towards them. For a large part of the period with which the for sterling, which was the true thunderbolt for British industry. This difference of view does not bowever affect author was concerned, drawing The second shock was the oil henefits was becoming more socially acceptable and there was also a less critical attitude price explosion, Opec II. Its result was to squeeze profits in menufacturing. Both the demand and exchange rate on the part of officials paying out, if only because of pres-sures on their time. The pendushock and the oil price shock required a drastic check to hum has since swung back and both nominal and real wages if this may be a factor additional employment was to be pre-served. But because of the nature of labour markets "a to the general hoom in the recent unemployment fall.

Another reason snggested for persistently high memploy-ment is the nature of the wage fall in aggregate demand is eventually reflected in money weges and prices, but not instantaneously." The severity of the 1980-81 shocks led to a sharn rise in unemployment bargain. This is between employers and workers who already have jobs. Outsiders who might prefer to work even sharp rise in unemployment before there was any chance at lower wages are excluded. Although Pissarides does not

for these wage and price adjustments to take place. spell it out, his theory must assume that by one route or The more difficult problem is why high unemployment peranother outsiders are eventu-

capital has risen to 11.5 per cent, the highest for 25 years, and cash\_balances have been

restored. Essentially, it is pay

rises that damage industry on

a percentage point-for-point basis, far more than interest

11.1.1

ally reabsorbed. For he does not believe thet edverse demand shocks affect job prosdemand shocks affect job pros-pects permanently: only that it takes seven to eight years for their effects on output and jobs to wear off and for prices and wages to adjust instead. The seven or eight year lag now looks fairly plausible, as it has taken about this long for the jobs market to begin to adjust jobs market to begin to adjust jobs market to begin to adjust to the 1890-81 shocks. The large fall in long term unemploy-ment over the past year also suggests that adjustment is at last taking place. There is however more to be

Much will be at stake tomorrow, when the Monopolies and Marg-ers Commission delivers its report to Lord Young on the public interest implications of the acquisition by the Kuwait said. The current British labour market exhibits many of the symptoms, not of slow adjustment to earlier demand deficiency, but of severe present overheating in many areas. In large tracts of the southat ange tracks of the south-east, and in some cases well beyond, employers are desper-ate for workers. To avoid e renewed inflationary spiral the Government has had to put the brakes on despite over 2m reg-istered unemployed.

istered unemployed. The malfunctioning of the housing market plays a part in keeping jobs and unemployed does a change in the labour market which makes it more

question mark over the Gov-ernment's commitment to its

out undue concentration. The gamble failed. Kuwait scooped

public interests grounds is flimsy. Nevertheless to allay

fears, however misplaced, of

Knwaiti interference in BP

decision-making, the State of Knwait recently covenanted itself unilaterally, with legally binding undertakings, not to use its shareholding for ulte-

rior commercial or political

motives other than for the pro-

tection of its investment, and not to seek board representa-

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difficult then before for employars to find posts for workers below a minimum level of skill or motivation. The general moral to which Plssarides points is: adjust macroeconomic policy slowly. The 1980-81 shock had a benefi-cial side-effect because of the pressure it put on employers to put their houses in order in a put their houses in order in a way not seen before. Here was

the pool - but it could easily the beginning of the snpply side turnround which has put Britain at near the head of the have been someone else. Thus far, the whole matter would seem to be a case of a shrewd investor obtaining a international growth league, None of this means that it big holding in a first-rate comwould be desirable to inflict e pany on advantageous terms. Nothing wrong in that. In addi-tion, the Kuwaiti action saved would be desirable to minicipal repeat performance on the British economy, The 1980-81 shock was neither planned nor intended - least of all hy the Prime Minister or any of ber colleagues or advisers, all of whom worm committed to med the British Government a large sum of money that it might otherwise have had to pay out to investors claiming the guar-anteed floor price of 70p per share. But here the plot takes a whom were committed to grad-ualism. A similar shock a secmore sinister turn. In its understandable emharrassond time round would put the jobs improvement into reverse, without necessarily bringing ment at having acquired such a powerful shareholder in a sit-uation not of its own making, the offsetting supply side improvements we saw in 1980-81. The Chancellor was BP appears to have told the Government something to the right to take some risks in the effect. "You got us into this mess, now get us out of it". The case against the KIO on

spring to prevent sterling from going through the roof again. But even if the overall British economy manages to make a soft landing, problems lia ahead on the jobs front. For rising demand will become less and less a source of jobs in the period ahead; and the focus of employment policy must move to specifically labour market measures. The interests of the unemployed outsiders need to be taken more fully into account in wage decisions than they have been for decades.

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### Kuwait and BP

# Britain's free market credibility at risk

#### By Ian Seymour

tion. It also undertook to limit its voting rights to 14.9 per cent, not to go above its cur-rent interest and not to exceed 20 per cent in the future should it decide to dispose of any of its present share.

The arguments being mar-shalled against the KIO can be divided into three categories: historical, commercial/opera-Investment Office of a 21.68 per cent shareholding in British If the commission's verdict and Lord Young's follow-up sction go against Kuwait, it will represent a kick in the teeth for a huge and friendly investor in the UK, and raise a mastic must be fort

historical, commercial/opera-tional and strategic. As regards the first, BP is portrayed as a British national flagship in the oil industry which should not be tainted by foreign influence. This holds no water at all. For many years BP has been working hard to distance itself from national identification with the UK and has been remarkably success-ful in assuming a multinaerment's commitment to its own free market principles. Consider the facts: the Brit-ish Government insisted on going ahead with the planned sale of its remaining 31.5 per cent stake in BP in October ful in assuming a multina-tional character. Nor does the 1967 despite the collapse of the share price in the wake of the stock market crash. This inevipresent Government have any time for the idea of a *national* oil company anyhow, having tably made BP highly vulnera-ble, hut the Chancellor's gam-ble was that drifting shares would somehow settle them-selves over the markets withdismantled the state-owned British National Oil Corporation in 1985 and sold off all of its one-time majority share-holding in BP itself.

In history, perhaps, may be found the cause of some linger-ing bad blood between BP and Knwalt stemming from the 1975 nationalisation of the former's half share in Kuwait's oil production. But this should be

production. But this should be seen as part of an inevitable process of decolonisation. On the operational plane, the arguments against Kn wait stem mainly from fears that behind the benign mask of the KIO lurks the powerful, state-owned, Kuwait Petroleum Cor-poration (KPC). But such mis-givings should now have been conclusively laid to rest by the binding undertakings of non-interference which bear out interference which bear out the KIO's contention that, like all its other UK stock exchange investments, the BP shares are eld for portfolio purpos

It has sometimes been con-tended that BP's worldwide operations may be harmed because foreign governments or companies may be reluctant to do business with a company that has the Kuwait Govern-ment as a substantial share-holder. This is surely a canard. Such evidence as there is sug-gests that the Kuwait shareholding would not have any effect as far as BP's dealings in Europe or the US are concerned, and might prove an advantage in areas like the

trent on territed out the institutes. In case with the or

Sec. Sec.

Arab world and the Far East. West Germany's Hoechst – in which Kuwait, through KPC, has a 24 per cent shareholding ~ has had no problems doing business on that account.

On the strategic level, it has been suggested that Kuwait – as a member of Opec – might use its influence in BP to cut hack the company's oil produc-tion and exploration in the UK and elsewhere. This seems and elsewhere. This seems wildly improbable. For one thing, Knwait would never nesort to such insanity – as an international company KPC is fully aware of the importance of playing by the rules where ever if operates. For another, the British Government already has full powers to pre-vent manipulation of North vent manipulation of North Sea production levels. More-over, BP's oil production operations in the North Sea, Alaska and elsewhate are gov-erned by consortia agreements with other partners, not by itself alone.

Nor would there be any plau-sible threat to the UK public interest in the event of a change of government in Knwait away from its pro-Western stance. In such cases - as was demonstrated in Iran with the Shah's overseas investments - it is the foreign investor that is the hostage to fortune, not the recipient of that inv

The Kuwait Government has at risk an investment which will be worth £3.8bn when the shares are fully paid. But the British Government stands to lose something even more valuable: its credibility as the custodian of a free market where foreign investors can be confident of receiving fair treatment within the rules laid down. That creditility will be badly shaken if the Govern-ment is seen to be bending the rules to punish an investor whose only offence has been to take astute advantage of the Government's own offer.

Whatever happens, the poli-ticising of the issue is unlikely to benefit BP. If there is one thing worse than a major shareholder, it is an angry major shareholder.

The author is editor of the weekly journal Middle East Economic Survey.

ETTERS

# Controlling inflation remains the central priority

#### From Mr Ian Taylor MP. Sir, The July trade figures were admittedly appalling, but reports that many Tory MPs have suddenly lost faith in the Government's economic management are, surely, far from

reality. It is unlikely that many of us will urge the Chancellor to reach for the old levers of credit and other controls, hav-ing previously expended so much effort in getting rid of them; nor agree with the National Institute's call for higher personal taxation, as this would negate the longer term effects of the Budget's tax cuts which can only be benefi-

The key to continued confidence is that the UK economy is experiencing a remarkable period of intrinsic success. This was underlined by the

tivity in recent years, comhined with strong industrial investment, should permit a faster annual rate of economic growth than the recent trend of 3 per cent plus would imply. Even analysis of the latest export figures shows positive signs that this investment pro-

ron growth in productivity. The move to base rates of 12 recent OECD (Organisation for Economic Co-operation and Development) Annual Review, per cent indicates that the bat-tle to control inflation remains which on several key indicators was even more optimistic the Government's central prithan the UK Treasury. The dramatic rise in producority. Even though the rate of deterioration of the trade bal-

ance was not predicted, the policy of concentrating on increasing the cost of money should be given time to work cess is bearing fruit in increased sales abroad, and the breakdown of the import figures shows that the re-equip-ping of British industry is coning societies in July were less than the record in June.

The Chancellor's task now is to bring down the rapid growth of domestic demand to a rate more consistent with the long

Overseas confidence in the UK remains high, judging by capital inflows, and the favourthrough the system (rather than making over-hasty judg-ments that it will be insuffiable impact of reducing the national deht is not to be underestimated. There would cient). Already, for example, there are signs in the south east of England of a tightening appear to be positive co-opera-tion between central banks on interest and exchange rates, and this will be a critical factor in the housing market, and promises of loans hy the buildin coming months.

Now is certainly not the time to urge the British Govern-The strain of higher interest rates may begin to hit industry - though less than oo individ-uals. It should be noted that the rate of return on industry's ment to undermine its supply side policies hy reintroducing a panoply of domestic controls. Ian Taylor House of Commons, SW1

rates

#### Watching and weighting

### From Mr W. Grey. Talk of a new, interest rate/. liquidity-weighted measure of the money supply (August 16) has followed on the heels of a hint in the Bank of England's latest Quarterly Bulletin.

Clearly, weighting is the thing to watch. W. Grey, 13 Arden Road, This shows a greater official emphasis on the effective exchange rate, as measured by

Finchley N3

tant

#### The time has come the Bank's sterling trade-From Mr F.S. Law weighted index, rather than the nominal rate against any

Sir, One wonders whether preparations made by the one currency, however imporopean Community's member governments for 1992 include a decision to adjust the summer/winter time changes to an EC standard. The edvantages gained by having the same working

surely overwhelmingly out-weigh any possible disadvantages. This has been dehated in Brussels, but no final solution has so far been found. We must hope that by 1992 it will be. F.S. Law, 43 Lennox Gardens, SW1

#### 'Railways are the usual textbook examples'

Dr Jorg From be allowed to become mixed

The first is the call for subsidising the mere existence of British Rail - or some parts of it, as inter-city services cause of a natural monopoly; that is, decreasing average

costs. Railways are the usual text-Railways are the usual text-book examples where, in an extreme case, there is not e single point on the demand curve where total costs may be covered. In such e case e sub-sidy can be justified as long as it is exceeded by the social wel-fare generated by the railway system as a whole (which can easily be approximeted, once the demand curves are known). the demand curves are known). The second argument con-

cerns tha point of marginal efficiency. It is well known, of

course, that the "price equals marginal cost" rule represents the so-called "first best" solu-tion, resulting in marginal effimoment: the relative prices of ciency. But, unfortunately, this result only holds if the rule is obeyed in other markets as

Once there is a deviation from it in any competing mar-ket, we must ebandon the tor - which is already too low - from falling still further, pri-vate marginal costs of motor-ing have to be moved markedly ket, we mist ebandon the "price equals marginal cost" rule in favour of a so-called "second best" solution. As long as private marginal costs of motoring are below social mar-ginal costs - which is cerupwards. A rise in the petrol tax is certainly one wey to achieve this goal. But the reason for such a proposal being on the political agenda (as it is now in West Germany) may be a different one. Sometimes it is not only some efficiency loss, but the budget deficit that has to be upwards. A rise in the petrol tainly the case not only in the United Kingdom but also in the

rest of Europe as well - this requires a second kind of "sub-sidisation": namely that Brit-ish Rail commuters should pay budget deficit, that has to be reduced. less than marginal cost. This would result in e down-Jörg Schimmelpfennig,

Department of Economics, Universität Osnabrück, ward shift of demand for pri-vate motoring and, thus, in a net gain of social weifare. Rolandstr. 8, 4500 Osnabrück. To he technical for e West German

### In simplicity sublime

hours throughout the EC musi

From Mr Will Wyatt Sir. Christopher Dunkley, your television critic, raised an eyebrow (August 24) at the "starkly economical" look of the series Late Great Britons, and wondered whether the BBC was to blame.

I asked Brook Productions to provide an intelligent and stimulating history series in the tradition of the A.J.P. Taylor television lectures of years past. Thus the hlame - or congratulations - for the simplic-ity of style should be the BBC's.

Congratulations for the choice of subjects and histori-ans, and for the thought-pro-voking approach, should go to Brook Productions. Will Wyatt, ad of Features & Docum He ries Group, BBC Television, Kensington House Richmond Way, W14

# A STREET STREET How to "K"eep Ahead in Shipping.

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STATISTICS.

KEIN

would approach the respective relative social marginal costs. Of course, the urgency for a parallel strategy remains unaf-fected. To prevent the overall price level in the transport secIndustrial Doors

# FINANCIAL TIMES



Thursday September 1 1988

# **Pinochet holds all trump cards in Chile poll**

By Mary Helen Spooner in Santiago

THREE PEOPLE were shot dead, more than 20 injured and at least 800 arrested in inciat heast 300 arrested in mci-dents following the Chilean's military junta's nomination of General Augusto Pinochet as the candidate in a one-man presidential plebiscite on Octo-ber 5.

The "No" Command, an umbrella group of 16 political parties campaigning for a "no" vote in the plebiscite, called on Chileans to beat saucepans at spm in symbolic protest, hut to remain in their bomes and avoid confrontations with the

regime's supporters. Nevertheless, disturbances erupted in several poor and working-class neighbourhoods, recalling anti-government protests of previous years. Several people were shot by men in civilian dress firing their weap-ons from moving cars. The offices of the "No" Com-

mand were attacked on Tues-day night hy demonstrators who shattered windows and burled objects through the broburled objects through the bro-ken glass. The huilding is located on Santiago's main avenue, one block from the seat of government where the General's candidacy was announced in a formal ceremony. A spokesman for the command said the group had an agreement with Chile's national police force, the Carahineros, to guard the offices hut that the huilding was unprotected when the pro-gov-ernment demonstratora

Chile'a electoral service

General Pinochet: the sole candidate in pr

closed its voter registration counting the thousands of Chiloffices at midnight on Tuesday, in accordance with the official proclamation of the plebiscite. eans who jammed the voter inscription offices during Angust in a last-minuta The electoral service's most attempt to register in time. recent figures showed that 7.4m people had registered to vote by the end of July, not According to electoral ser-vice workers, the level of reg-istration, in a country of 12m

inhabitants, indicates that a higher percentage of eligible voters will cast ballots in the plebiscite than in any previous Chilean election.

Chilean election. Following the nominating ceremony. Gen Pinochet addressed supporters from the balcony of the La Moneda pres-idential palace. Although a pro-government tabloid esti-mated the crowd at 60,000, the number of curporters filling number of supporters filling the plaza and surrounding streets appeared to number no more than 5,000 or 6,000. Chile's state-run television net-work avoided broad camera shots of the crowd, sticking largely to close-ups and shots of Gen Pinochet.

If the turn-out for the pro-government rally was less than Chilean officials had boyed. the Pinochet campaign still has a number of advantages over its opponents. Although the country's tightly controlled television stations are to begin limited air time, the news and public affairs programmes are unlikely to alter their largely

Gen Pinochet enjoys the backing of the Chilean army, which sees itself in the vanguard of a movement begun in 1973, the year of the coup, to protect the country from an ever-present Marxist threat. Older Chileans with negative memories of socialist President Salvador Allende's ill-fated government, along with much of the husiness community, also tend to support Gen Pin-

ochet, although they may have preferred a conservative civil-ian as the regime's candidate. The extent of Gen Pinochet's support among other branches of the military is unclear, and

both the commenders of the air force and national police have said publicly that a "no" vic-tory in the plebiscite will not result in chaos. A 15-year-old military regime's continuous references to the Allende government are unlikely to impress younger voters, and the "No" Command had already assumed that Gen Pinochet's nomination was a foregone conclusion. Its leaders have seized on the length of Gen Pinochet's presidency and his statements years ago that he would not be a candidate. One particularly clever advertisement printed in inde-

pendent newspapers and maga-zines shows a wooden figure with an extended Pinochio-like nose surrounded by micro-phones and the caption: "And he said he wouldn't be the can-didate "A meant noll be the the didate." A recent poll by three opposition research institutes showed that two-thirds of the respondents believed that Gen Pinochet had been in power too long, suggesting that the 72-year-old general's nomina-tion does not help the Govern-ment's chances in the plebi-

scite. The "No" Command is planning a rally on Sunday in Sant-iago, and the comparative size of the crowd it attracts may provide a clue to support for a "no" vote.



In the world according to Maxwell, shareholders either MCC take things on trust or not at all. So it was scarcely surpris-Share price relative to the all. So it was scarcely surpris-ing to find that yesterday's interim results from MCC said more about Robert Maxwell's dreams than about his reason-able expectations for the com-pany. Shareholders have long ago taken the measure of Mr Maxwell's aspirations, which involve trebling the company's sales by 1990; but for all the help they got from vesterday's FT-A Alf-Share index :

sales by 1990; but for all the help they got from yesterday's statement, their profit erpecta-tions must be hazy indeed. Not surprisingly, investors were assured that treasury operations would play a smaller role in future, after yesterday's £22m drop in prof-its from that source. And if MCC was faulted before for the uncertainty of these earnings, then their disappearance must surely enhance the quality of what remains. But MCC will need more than quality to make up the £40m or so shortfall on investment income for the full year, and it is far from-

the full year, and it is far from-clear that the core businesses can yield that much ertra. No doubt a prospective yield of around 10 per cent does its bit to help investors cope with uncertainty on the earnings front. But the past speaks for itself: in relative terms, the share price has done precisely nothing since five years ago; and given yesterday's 30 per cent decline in half year earn-ings per share, the end of the year could see earnings as ings per share, the end of the year could see earnings as much as 4p shy of their 1964 level. Buying all or some of Macmillan would obviously do a lot for Mr Maxwell's sales targets, but the impact on shareholder value is less clear. Investors can scarcely com-plain, however, if purchasing Macmillan - or even AGB, which is being acquired by another Maxwell company - is empire-hullding. Mr Maxwell value going. empire-huilding. Mr Marwell has not kept banging on about his £3bn to £5bn sales target for nothing; and if sharehold-ers have only now discovered that size might come at the ket by 10 per cent in the expense of earnings growth,

reachev

Pearl's management. As yester-day's interim figures con-firmed, the company's life busi-ness is growing strongly, and there is every incentive to con-tinne the process by apping the payments to policy holders. This would lead to an auto-matic increase in dividends, a process which might in any case be justified in the light of the unusually low distribution

case be justified in the light of the unusually low distribution of life profits in the past. That apart, yestarday'a results were within expecta-tions - better homes and prop-erty business, largely due to weather, and some recovery in the motor account. But as Mr Adler acutely spotted last year, Pearl's chief attraction is not as a trading entity, but as a as a trading entity, but as an unrecognised store of value.

BSR

The charitable explanation The characteristic explanation for BSR's stillborn merger is simple bad luck — interest rates have risen and the mys-tery bidder found its sums no longer added up. However, BSR's shareholders have little charity left after so many years of disappointment, and will doubtless blame the company directly for this latest setback.

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Whatever the cause, BSR is now left with an even worse -1 Y 18.2 

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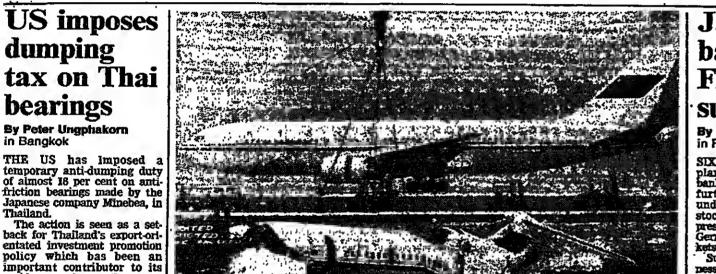
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Amerger talks dr ogge

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growth prospects. Presumably it would make sense for any big component manufacturer to enquire further; though the



Japanese banks plan Frankfurt

subsidiaries By Haig Simonian in Frankfurt

SIX MORE Japanese hanks plan to set up investment banking subsidiaries in Frank-furt by early next year, undaunted hy last October's stock market crash and the present torpor in both the West German stock and bond mar-

they have only them blame. kets. Sumitomo Bank starts business today while Fuji Bank is

May: 1987 Jan 1988 Aug its value had risen 7 per cent in just two months, and unconcerned by the 100 per cent gearing that the bid will imply. Meanwhile Peachey's share-holders could scarcely believe their luck yesterday, to judge by the haste with which they sold. The deal managed to suit both sides at once, as each values property shares differently. Dutch investors apparently like Wereldhave's international

portfolio well enough to grant its shares a premium of 10 to 15 per cent over asset value, compared to which a tiny discount to a kitchen sink valua-tion of Peachey may look good

credibility problem than before. After having in effect declared itself for sale, it now The whole thing displays an almost tonching faith in tha future of the London property appears to be backtracking, market. But given the number of West End properties which recently have been bought by and the announcement of man-agement changes seems a agement changes seems a belated effort to win a little shareholder confidence. Yester-day's 19 per cent fall in tha share price shows support is not to be bought so easily. The price is back to where it was before the talks began, and although prospects for this foreigners at record prices, it would seem that Wereldhave is not alone in thinking that Lon-don still represents tha best

Pearl Group



without the share price to match. Its core power supply business is successful erough, and is in a market with strong

rapid economic growth A senior official of the Thai

in Bangkok

Thailand.

Board of Investment complained yesterday that the US was being unreasonable and protectionist. In order to develop, Thailand had to com-pete with exporters such as Malaysia and China, which have similar policies. Responding to a complaint

from an American manufac-turer, the US Commerce Department announced preliminary findings accusing the Thai Government of subsidising the bearings, used in computer equipment, by 17.83 per cent. Most of this is in the form of tax concessions to investors in export industries. A ruling

is expected in November. Minebea, which last year exported from Thailand \$14.5m of bearings to the US is also under anti-dumping investigation by the European Commu-nity. A ruling from Brussels is expected hy the end of the

year. Thai observers noted that the American corporation Seagate produces computer disc drives in Thailand mainly for export to the US, with tax incentives similar to those granted to Minebea.

Thailand's recent rapid economic growth bas been led largely by manufactured exports and investment has been flooding in from Japan, Taiwan and other countries in response to the investment incentives as well as the competitive economy. Special inceotives such as

tax relief on imported machinery and duty rebates on imported raw materials are offered to companies that manufacture for export.

A Thai Commerce Ministry official objected to what she described as inconsistency in US law, which allowed large amounts of money to be paid directly as subsidies for American rice, most of it exported, while penalising other countries for reducing taxea on exported goods.

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Algebra Analysis Analysis Analysis Burrisin Genotics Denta Delayado Delayad

Cables from a giant floating crane lifting the wrecked Chinese jetliner which skidded into Hong Kong's harbour early yesterday from Kai Tak International Airport's single runway. The Hong Kong Government launched an investiga-tion into the crash in which six crew members and a Hong Kong passenger were killed and 15 others injured among the 89 people on board. The Trident aircraft, which belongs to Civil Aviation Administration of China (CAAC), China's flag-carrier, skidded in beavy rain as it was

landing on a flight from Canton. Later yester day, a Delta Air Lines jetliner carrying more than 100 people crashed and burned on takeoff at Dallas-Fort Worth Airport in the US state of Texas, killing at least 13 people and injuring about 40. Many of the survivors climbed to safety through a blackened hole in the top of the aircraft's cabin. Witnesses said the Boeing 727 went down in hazy sunshine, broke into two and burst into flames on a flat, grassy field near the runway.

due to open on October 1. Mit-subishi Bank is expected to join them before the end of the year.

Sumitomo Trust and Dai-Ichi Kangyo Bank intend to set up subsidiaries early next year and Mitsubishi Trust is due to be represented through a joint venture with Germany's Westdentsche Landesbank. These three Japanese institutions are still awaiting approval from the German authorities and opening dates have not yet

been set. Bank of Tokyo and Indus-trial Bank of Japan have exist-ing investment banking subsidiaries in Frankfurt, where all four leading securities houses are also represented.

Japanese banks' enthusiasm to move to Frankfurt, where both suitable persounel and office space remain in short supply despite the crash, stems from a variety of factors.

The Japanese finally gained permission to lead manage environmental pressure group, which revealed traces of poly-D-Mark Eurobonds last Octochlorinated biphenols. These, must be incinerated at high ber, although there has only been a handful of issues so far temperatures to avoid producbecause of poor market condition of poisonous dioxins. The Civil Protection Ministions

Yet while securities sales try was saying nothing last night about the Karin B's next possible port of call. Over the and trading are the first priori-ties, all the newcomers also hope to become more active in past few weeks the Ministry, corporate finance in the longer term.

However, the new Japanese operations in Frankfurt are not expected to affect the banks existing branches or represen-tative offices in Disseldorf.

# UK faces demand for statement on IRA deaths

#### Continued from Page 1

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Readings of

ing him to state whether or not the SAS was involved. Mr Mar-shall said it was important to establish if the deaths were unavoidable and were consist-ent with the use of minimum

press abont the contents of

these barrels is true there are some substances on the Karin

B cargo that are not included

under the directive," he said. Initially, the Italians had

that the ship would be allowed to dock once British authori-

ties were informed of the com-

position of the waste on hoard.

On Tuesday, Mrs Virginia Bot-tomley, Britain's Junior Envi-ronment Minister, had

appeared to stress that permis-

sion was heing refused

een some reasons for hoping

# force hy security forces. Mr Paddy Ashdown, leader of the smaller opposition Social and Liberal Democrat party

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said it was important for the Government to "give specific assurances that the standard rules of engagement applying to security forces in Northern Ireland were not breached." The IRA yesterday named the men killed on Tuesday as brothers Martin and Gerard Harte and their brother-in-law

as highly active terrorists who had carried ont numerous attacks on security forces in

The Royal Ulster Constabu-lary refused to elaborate on their statements that they had been killed whan "soldiers encountered armed men in a vehicle and opened fire.".

# Union Texas loses tax appeal

#### Continued from Page 1

linguistic nature. The UK-US double tax agreement com-bines the drafting techniques of the two delegations which produced it and does not lend itself easily to the strictly logi-cal, grammatical interpretation usually applied to the UK's finance acts. be assessed for tax only on the basis of the plain meaning of the statute – Mr Bretter argued that the term "tax credit" could not be taken as meaning tax credit within sec-tion 86 of the 1972 Finance Act and that, consequently, no authorisation for deduction from the dividends to the US company could be found either finance acts.

finance acts. The Union Texas claim, pres-ented by Mr C. R. Bretten, QC, relied on the literal, strictly logical interpretation of the agreement. Because the term "tax credit" was given more than one meaning in the agree-ment - and the taxpayer could company could be found either in the agreement or in the Finance Acts. The indge rejected this method of literal interpretation

as Union Texas was not a UK taxpayer or a British subject.

"The life of the law was not logic, but experience," he said.

The amount at stake would have been far larger had com-panies been allowed to reopen assessments for years where agreement had already been reached with the Revenue.

Section 33 of the Taxes Man-agement Act provides for cases to be reopened where an error or mistake has occurred. However, this does not apply where a tax return was made on the basis of practice generally prevailing at the time.

The willingness of Wereldhave to increase what was already a generous offer for Peachey in a falling stock market suggests that they see things differently on the Continent. Wereldhave's shareholders seem perfectly content to pay asset value for a company in a sector so overheated that a long one, with loose stock gradually assimilated until the stake is large enough to be passed on to a (presumably European) bidder. equipment manufacturers Then again, the market may simply be asking itself what happens if no bidder appears. happe

themselves, such as IBM or Apple, migut be deterred by the prospect of supplying the Pearl'a historic yield is now 3.6 competition. Still, it is not sur-per cent, which for a stock prising that the shares are 40with a traditional yield preper cent below what must be a mium to the market seems to leave a lot of downside. Much minimum bid price; in market conditions like these it would depends, though, on the effect be folly to pin too much on a of Mr Adler's presence on purely hypothetical bidder.

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in which eight British soldiers died. The RUC, Northern Ireland's police force, regarded all three

ting the IRA coach bomh blast near Ballygawley on August 20

Brian Mullen. It said they had all been on "active service." One of them had been ques-tioned by detectives investiga-

working through Italian embassics, has gathered sev-eral bids for disposal of the waste and it claims it has other proposals to fall back UPOL.

#### Italy gives up hope of landing waste **Continued from Page I** ever, are harassing the Gov-ernment with the results of an analysis carried out in Nigeria ment had been that Britain because the composition of the wanted more snhstances included on the list of hazardcargo was unknown. It was not clear last night for Friends of the Earth, the ous wastes. "If what we have read in the whether a door which had-seemed ajar was slammed shut

during diplomatic contacts

yesterday, or whether Italy had found it impossible to con-

vince the British that the

Karin B's cargo was not highly toxic, as Rome claims.

ysis was made for the Italian Government before the cargo

Givenment before the cargo was loaded in Nigeria and the Civil Protection Ministry says that it is largely paint resi-dnes, phenolic resins and slime from industrial tanks

The Italian Greens, how-

- all of a low toxicity.

Some kind of technical anal-



iMi pic, Birmingham, England.

#### INSIDE

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#### **Inland Steel shows** mettie of success



riding high on a boom in the US steel market. With record earnings in sight for this year, the company is looking to improve the quality of its products to maintain unings growth even in another steel downturn

Inland's improvement

Chicago's Inland Steel is

can be attributed to a drastic cost-cutting programme launched in 1980. Deborah Hargreaves looks at inland'a strategies for survival and success. Page 18

Hard times for some in Tokyo

Hoping for huge profits, foreign banks lobbied hard for the deregulation of the Japanese financial markets. But the sobsequent intense competition has slashed both their market share and profitability. Stefan Waystyl looks at the options now available to the hard-pressed overseas financial institutions operating in Tokyo. Page 20

# United Nations liberates African



- What the women do with the time they save has algoriticant implications for African agriculture. Page 32

#### Market debut for Ferruzzi unit

The reorganisation of the Italian Ferruzzi-Mon-The reorganisation of the Italian Ferruzzi-Mon-tedison empire passes a milestone today with the stock market debut of Ferruzzi Finanziaria (Ferfin), the holding company previously con-trolled by the Ferruzzi family. The new listing on the Milan and Bologna bourses comes from the fusion of Ferruzzi Finanziaria and iniziativa META, property, retailing and financial ser-vices company formerly controlled by Montedi-sco. Parts 19 son, Page 19

#### Akusuisse back in the black

Alusuiase, Swies light metals and chemicals group which ran up ALUSUISSE tosses totalling SFr1.3on (\$226m) in 1985 and 1986, hopes to resume dividend payments this year after an absence of three years. Hans Jucker, chief executive, attributed the improvement to "the excellent economic situation, the corresponding demand for bulk products and the sharp rise in the aluminium price." Page 19

# **FINANCIAL TIMES COMPANIES & MARKETS**



Thursday September 1 1988

# VW sales soar as demand rises in foreign markets

By Andrew Fisher in Frankfurt

VOLKSWAGEN, West German car manufacturer, expects its world-wide sales to reach a record of nearly 2.9m vehicles this year after a 2 per cent rise to 1.48m in the first six months of 1988

The improvement has come entirely in foreign markets, with strong performances in Italy, Spain, and France.

In 1987, sales by Volkswagen and its Audi and Seat (Spain) subsidiaries totalled 2.77m vehicles.

vehicles: This year, Volkswagen has added a sleek new version of the large Passat to its range of cars. While its main family model, the Golf, has met new competition from Flat's Tipo, analysts note the Italian car still has to prove itself against Volkswagen and

manufacturers. As announced in July, Volks-wagen'a group net profits in the first half were 2 per cent higher at DM310m (\$166m) on turnover which was up by 5 per cent to DM90 hm DM29.1bn.

At the pre-tax level, the increase was a steeper 10 per cent Cash-flow showed a 14 per cent increase to DM2.4bn. Capital spending, influenced last year by preparations for the new Passat,

was 24 per cent lower at DMI.7bn. The group, which is 50 years old this year, has already indi-cated it hopes to continue last

Volkswagen has also embarked

on a cost-cutting programme, including cuts in the workforce, to improve profitability. It said yesterday that, barring unforeseen problems, it expected profits for the whole of 1988 to follow the transformed of 1988 to

follow the trend of 1987. Group net profit totalled DM596m last year. Unit sales in the German mar-ket were 8 per cent lower at 459,000 vehicles in the first six months, which contrasts strongly with a 7 per cent advance abroad to 1.02m. to 1.02m

Volkswagen said that the Ger-man market, which weakened in April and May after a boom in recent years, had recovered in June.

Deliveries had also heen affected by the changeover to the new Passat.

# Racal may not float

# telecoms

By Hugo Dixon In London

RACAL, the British electronics group, may be forced to postpone the flotation of its telecommuni-cations subsidiary because of the decline in London stock market decline in London stock market prices, one of the company's financial advisors said yester-day. The offer, which could value the company at £1.75bn (\$2.95bn) or more, has been scheduled as one of the higgest London new issues this autumn.

A postponement would be an ambarrassment to Sir Ernest Harrison, Racal's chairman, who only two weeks ago won a bitter fight with Millicom, a leading US shareholder which was opposing

suarenoider which was opposing his flotation plans. A delay in floating Racal Tele-com, whose flagship is Vodafone, the mohile phone operator, would also prevent Racal from raising the funds it has said it needs to invest in its other busi-nesses.

It might even lead to a resumption of bid rumours over Racal. The company is widely believed to have decided on the flotation plan in order to boost its share price and so deter predthe international telecommunica-tions group, which then held 2.8 per cent of its equity. Racal wants to float off 20 per cent of Racal Telecom rather than the 95 cent oper cent oper cent

than the 25 per cent normally demanded by the London Stock Exchange. The Stock Exchange is therefore insisting that at least £350m in equity is floated, giving Racal Telecom a mininum value of £1.75bn.

One of Racal's financial advi-sors said the issue would have to be pulled if it was taking place in today's markets. He was hope-ful that conditions would improve by the end of October, when the flotation is due to take place, but said there was concern that this date was close to the anniversary of last year's stock market crash.

One of Racal's leading institutional shareholders said: "They (Racal) have got problems. It would be foolhardy for them to go ahead just because they feel committed to." He said he would not now underwrite a flotation valuing Racal Telecom at Britain's largest market research £1.75bn, although he would have group at £134m.

# Dutch claim bid victory for UK property group By Nikki Talt in London

THE BID hattle for Peachey Property Corporation, the UK property company which owns London's Carnahy Street, came to a swift conclusion yesterday after Wereldhave, the Dutch predator, raised its offer and Cazenove, its stockbrokers, swept into the market for Peachey

shares. By the close of business, Wereldhave, the second largest propeldhave, the second largest prop-erty company in the Netherlands, claimed control of 50.75 per cent of Peachey's fully-diluted equity. Ahead of the bid, Wereldhave owned a 10.4 per cent stake in Peachey, to which it had already added another 1.37 per cent as the weaker market pushed Peachey's shares below the ini-tial offer price. Yesterday's buy-ing some petited a further 32.74 ing spree netted a further 38.74 per cent, and Wereldhave also had acceptances in respect of 0.71 per cent of Peachey's shares at the first closing date. Assuming valid cover is received, this adds

up to 51.24 per cent of the ordi-nary shares, or 50.75 per cent on a fully-diluted basis. Wereldhave's revised offer is

worth 650p a share in cash, com-pared with 612p previously, and values Peachey at £282m. It also contains a full loan note alternative, compared with the earlier Lex, Page 16

partial arrangement. and a revised cash offer for cach Peachey preference share of 75p. Wereldhave says the additional consideration will be financed by further borrowings. Shares in Peachey, which started the year at under 370p, jumped 32p to 644p

yesterday. The new offer, bowever, is still pitched at a near-4 per cent dis-count to Peachey's latest estimated asset valuation. This was conducted on August 24 and suggested net assets of 676p per share

The defeat was greeted with a deafening silence from the Peachey camp. The company itself refused to talk, although Warburgs, its advisers, conceded that the Dutch company appeared to have control. The company was still considering its recommendation to shareholders last night, having earlier noted the higher offer and advised shareholders to take no action. Wereldhave itself rebutted sug-

gestions that it had overpaid for Peachey by bidding towards the top of the UK property cycle. "If you compare the UK market with prospects on the Continent, there is still a lot more potential here," the Dutch said yesterday.

Further talks are to be held in

In London, meanwhile, Perga-

# Advance for two Maxwell ambitions

#### By Clay Harris and Raymond Snoddy in London

THE acquisitive international it." New York next week. mon, called Hollis until it sold its

THE acquisitive international ambitions of Mr Robert Maxwell, the British publisher, advanced on two fronts yesterday. Mr Max-well expressed confidence about the \$2.37bn bid by Maxwell Com-munication Corporation, his printing and publishing group, for Macmillan after a meeting in London with Mr Edward Evans London with Mr Edward Evans,

engineering businesses in May, said the acquisition of AGB would enable it to expand its interests from the existing range of legal and employment serchairman of the US publisher. Meanwhile, Pergamon Profes-sional and Financial Services, one of his stock market vehicles, vices, educational supplies, and software for school administration. won AGB Research's recommendation for a takeover bid valuing

Yesterday's bid thwarted a pre viously agreed deal under which MAL, the British money-broking and advertising group, was to have raised its stake from 9.6 per

build-up in the US Japanese US aquisitions 085 88 87 RA 00 Yen by Nippon Mining Net profits

electronics and new materials. It would rash to suggest, how-ever, that both Nippon's existing Dusinesses, in oil and non-ferrous metals, have fittle or no future, especially for a company with leading positions in each.

Similar diversifications have been attempted over the years by numerous American industria groups, but with mixed results. Gould may never have been one of America'a most successful companies but five years ago it seemed a respectable example of just the kind of transformation Nippon Mining is now undertaking. The takeover is also one of the more dramatic examples of another important trend in Japa-nese industrial strategy. Thanks to the high yen and high share prices in Tokyo, Japanese compa-nies can now afford to buy their way into foreign businesses and technologies which they could not have dreamed of acquiring nor nave creamed or acquiring three years ago. "It is an indication of how ter-ribly cheap US assets are for Jap-anese companies," says Mr Steve Richardson, general manager of stockbroker W.I Carr in Tokyo. He and others have no doubts that the trend for Japanese com-panies to acquire US businesses will accelerate in the next few months However, the Nippon Mining move is on a much larger scale than the high-tech diversificathan the high-tech diversinca-tions seen previously, reflecting the clout given by the high year. Nippon Mining's consolidated net-profits of Y751m in the year to March come out at \$554m when expressed in dollars, more than double those of Gould, even though the US company has twice as many employees as the Japanese group. Additionally, high Japanese share values mean Nippon Min-ing, which has a price earnings natio of more than 50 and a mar-ket capitalisation of something like \$3.5bn, can raise \$1.1bn with Mr Hideo Ishihara, managing director of Industrial Bank of Japan (IBJ), Nippon Mining's main financial adviser, said yesinded about acquisitions. Until recently, they preferred to do only greenfield or joint ventures only greenfield or joint vanures when expanding oversess. The trend will also help Japa-nese banks expand in the highly-competitive mergers and acquisi-tions business. In this case IBJ Schröder Bank & Trust, IBJ's New York subsidiary, has han-died the US advisory role for Nippon Mining. It is often more difficult to take on an existing business than start a new one, and the recent start a new one, and the recent profit record of both Nippon Min-ing and Gould raises the issue of whether they will do any better together than they have done well as its share price - 75 per cent of the company's \$1.7hm 

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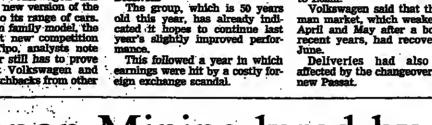
Ian Rodger and Anatole Kaletsky look at the growing attraction of foreign bids for Japanese industry

Japanese

This week's agreed \$1.1hm bid for Gould, US electron-ics group, from Nippon Mining might have been specially

arranged to show the contrast between American and Japanese attempts to shift old-line industrial companies from a depen-dence on out-model products to a technologically-led growth. The deal bears some of the

characteristics of the trend in recent years for Japanese compa-nies in mature sectors to develop new businesses in high technol-ogy areas: the old shipbuilders, such as Mitsubishi Heavy Industries, are all piling into aerospace. while speet-makers, such as Nip-pon Steel, have been dabbling in electronics and new materials.



#### BSR merger talks dropped

St. 1.

BSR International, Hong Kong-based electronics group, has called off merger discussions with an unnamed third party. The company said it was confident it could expand its elec-tronics activities independently. The news caused BSR's shares to fall aharply in London trading. Page 21 age 21

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Large Japanese aquisitions in N.America

Aquisitions

Price

a series of seemingly uncon-

cal oil and non-ferrous metals businesses. Also, its results have been depressed in recent years by the high cost of closing down several mining and smelting operations. It has maintained its position

Buyer

in other non-ferrous metals, being the Japan market leader in copper and a large supplier of zinc, gold and silver. It has also entered high technology metal fabrication for electronic and opto-electronic applications.

A gowever, no be oil, which accounts for up per cent of total sales. It oil refineries in Japan has three oil refineries in Japan with a combined capacity of nearly 300,000 harrels a day, and a dominant 47 per cent stake in Kyodo Oil, the country's thirdlargest oil products retailer. Kyo-do'a results are consolidated in the group's accounts. Certainly, the last few years have been difficult in oil, but Nip-

pon Mining directors believe good times will return at some point, and that they are well placed to benefit from them. The planned takeover of Gould

is hardly a lunge into the unknown for Nippon Mining. The two companies have had several agreements since a joint venture to make copper foil for printed circuit boards was established in

Japan in 1981. Nippon Mining began import-ing and marketing Gould fibre optic components in 1985. In April of this year, the two set up a joint venture to make copper foil in Hong Kong and in July they established another to sell Gould's super-minicomputers in

Japan. It is almost exactly five years ago that Gould's share price peaked at \$44, roughly double what Nippon Mining is to pay for

the company. Gould began life as a manufac-turer of automotive batteries in the 1910s and automotive compo-

weeks ago **Bacal's shares closed at 304p** yesterday compared with a yearly high of 351p soon after the flotation plan was announced. The present price where the group at £1.9bn. Mr Stephen Owen, an analyst at James Capel, said this meant the stock market was putting a notional value on Racal Telecom of only £1.1bn-£1.2bn, when the value of the other businesses was

subtracted.

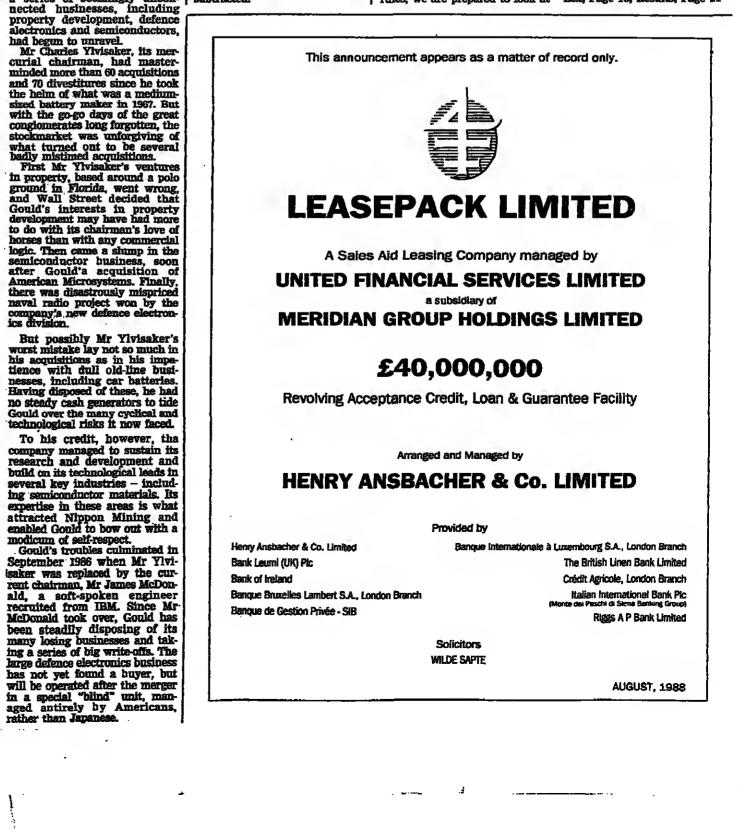
MCC will at least get Macmillan's information services division -for which it has already put for-ward an alternative \$1.1bn offer - if not the mainstream book publishing business. Mr Maxwell said: "Our current intention is to acquire the whole of Macmillan, but if the manage-

ment prefers to sell only the information side and we can agree a price and it is within the rules, we are prepared to look at

The likelihood is growing that cent to nearly 30 per cent b injecting its own US market research operation, MRI, into AGB.

Pergamon, which bought nearly 15 per cent of AGB shares in the market last week, is offering convertible loan stock valued at 236.8p per share, with a cash alternative of 220p. MCC yesterday announced a 33

per cent jump in operating prof-its for the six months to June 30. Lex, Page 16; Results, Page 21



#### INTERNATIONAL COMPANIES AND FINANCE

# **Carnival Cruise poised to** take over Royal Admiral

By Kevin Brown in London and Karen Fossii in Oslo

US

division.

\$4.86bn.

CARNIVAL CRUISE Lines of Miami, the world's third big-gest cruise company, looked virtually certain last night to take over Royal Admiral Cruises, the sector's second

18

higgest operator. Mr Micky Arison, president, said Carnival had agreed to buy just under 70 per cent of Royal Admiral, mainly from Gotaas-Larsen and I.M. Skaugen, the Norwegian shipping

The deal would give Carni-val control of more than 23 per cent of the key North American market, and propel the company to the top of the cruise line league, ahead of P&O, the UK gronp which recently acquired Sitmar

Cruises. The agreement is subject to

Honeywell

four units

By Our Financial Staff

HONEYWELL, the

electronic controls and defence

equipment group, is putting up for sale four divisions of its

space and aviation systems

The units, which employ

about 3,500 workers, are Elec-tro-Optics, based in Lexington, Massachusetts, Training and Control Systems, of West Cov-ina, California, Defence Com-munications and Production, of

Tampa, Florida, and Signal Analysis Centre, of Anapolis, Maryland.

The divisions have combined

sales of about \$430m, or 6 per cent of the company's total

ales of \$6.7bn. Honeywell said

comhined sales for its space and aviation systems business

totalled \$1.9bn.

to sell

business

US regulatory approval, hut US regulatory approval, hut this is expected to be a formal-ity in view of the fragmenta-tion of the cruise market. However, it could also be prevented by Anders Wilhelm-sen, the third major share-holder in Royal Admiral, which has an option allowing it to match Carnival'e offer. Wilhelmsen's position was Wilhelmsen's position was unclear last night, although the company was thought unlikely to try to raise the \$550m necessary to block the sale. Mr Anders Wilhelmsen, president, refused to comment.

The three Norwegian ship-ping companies each have a 30.72 shareholding in Royal Admiral, which incorporates the formerly independent com-panies, Royal Caribbean Cruise Lines (RCCL) and Admiral

Cruises. Two small shareholders, Johnson Line and EFFOA-Finland Steamship, have agreed to sell their minority sharehold-ings, which total 7.84 per cent. Mr Cato Holmsen, managing director of LM. Skaugen, said his company and minority shareholders Johnson Line and Finland Steamship Company had agreed to sell "regret

fully. Mr Holmsen said I.M. Skau-gen had feared a legal dispute if it refused to sell in the wake of a "very strong" prior agreement between Gotaas-Larsen

ment netween Gotaas-Larsen and Carnival. Carnival said it intended to operate RCCL and Admiral separately from its own fleet. The combined group would have 15 ships.

buy US futures firm By Roderick Oram in New York

talks to

Nomura in

NOMURA SECURITIES is

negotiating to buy a majority stake in GNP Commodities, a Chicago futures and options firm, as part of the rapidly accelerating investment by Japanese institutions in the

city's market makers. So far this year, Daiwa, Nikko and Yamaichi have become clearing members of either the Chicago Board of Trade or the Chicago Mescan-tile Exchange. While they appear set to huild up operations from scratch, the Long Term Credit Bank of Japan recently took over Greenwich Capital Markets, a Connecticut-based firm active

on the Board of Trade. The developments reflect a growing desire by Japanese investors to hedge in futures and options markets their

and options markets their exposures in stocks, bonds and foreign exchange. Nomura began talking two months ago about taking a stake in the medium-sized firm, which is active on both Chicago exchanges. Mr Brian Monieson, GNP's chief execu-tive, said a definitive agree-ment had yet to be reached, but negotiations were continu-

"Our philosophy is that the industry will begin to be dominated by firms with mega capi-tal," Mr Monieson said. GNP, for example, wanted more cap-ital to expand its trading strat-egies so it could handle more funds from institutions.

It also wanted to invest heavily in computerisation so it could better use information affecting investors.

The firm's current capital level of about \$25m, including the value of seats on the two exchanges, was already some-thing of a constraint on its ability to take on new inves-tors, Mr Monieson added. The firm, which clears for

hitions against Third World about 250 other members, han-dles some 1.5m transactions a loans, showed a final net loss dies some 1.5m transactions a month. By buying into an established firm, Nomura would have advantages over Japanese companies building mp their Chicago operations from scratch. In particular, through GNP if would get bet-ter pit positions than would a new entrant. Third-quarter earnings this the 1987 period. The quarterly dividend rate is to be raised from 19 cents to 20 cents with

# Inland Steel builds on quality

Deborah Hargreaves on a strategic move to higher-margin products

On the steel-making side, Diand is concentrating on the production of the sort of higher-margin, sophisticated products in demand from the car inductor

M r Luerssen sees little inture for Big Steel in the commodity end of the steel market – concrete reinforcing bars and steel pro-files as well as hot rolled steel coils. These products are often supplied by foreign producers, at lower prices, and by the ris-ing band of steel mini-mills. Wa would like to differenti-ate further our range and really put money into higher-

really put money into higher-margin products," he says. Inland is currently working

on the construction of a steel cold rolling mill in a joint ven-ture with Japan's Nippon Steel, which, when completed, will be one of the highest quality operations in the world.

The mill, which is being built near South Bend, Indiana, will be capable of producing 600,000 tons of cold-rolled steel with extremely close toler-

Car industry

With record earnings in sight for the year, the company is looking to improve the quality of its products in order to maintain earnings growth should tha industry take another downturn. Inland Steel's first-half income shot up to \$143.5m this

year, an 80 per cent gain over last year's \$79.9m. As with most US steelmakers, the com-

host Us steelinakers, the con-pany is working flat out and using more than 90 per cent of its capacity. As the value of the dollar has fallen, inland, which is not a leading player in the export market, has seen many of its

costs and we're getting better prices."

improvement can be attributed to its 20 per cent reduction in costs. Steel prices, although The company has reduced

costs hy investing in new, effi-cient steel-making processes,

ANTOFAGASTA Holdings, which is listed in London even

though most of its assets are in

Chile, has about \$100m of cash

ready for acquisitions, accord-

ing to Mr Andronico Luksic,

the chairman. He said yesterday that the

money would be invested in

natural resource companies or

communications businesses.

Investment would probably be

in the UK, France or Spain to

lessen the company's reliance on Chile, where its has rail-way, mining and other indus-

Antofagasta was virtually

trial interests.

steel production. Inland's distribution chain is now the largest in the US and **Cash-rich Antofagasta seeks acquisitions** 

By Kenneth Gooding, Mining Correspondent

its 52 per cent shareholding in Forestal Colcura, a forestry company in the south of the Chile, within a year of buying the stake

Mr Luksic said, however, that Antofagasta — in which his family group has a 70 per-cent shareholding — would prefer to leave the cash in the bank rather than pay over the olds for any acquisition.

The Forestal sale had released enough cash to make a large acquisition worthwhile. Antofagasta would borrow money to finance expansion of its existing interests instead of using its own resources. tional Finance Corporation, the World Bank affiliate, had indi-

free of debt, he pointed out. Last year it generated a net profit of £12m (\$20m) by selling is a \$35m scheme to double

production at the company's Michilla copper mine by installing a solvent extraction, electrowinning plant.

Last year the mine produced 16,800 tonnes of refined copper. A group of banks is putting up \$45m and taking 35 per cent of Antofagasta's Los Pelambres copper project, which is expec-ted to produce 20,000 tonnes A \$2m investment programme, should boost this by 20 per cent to 20,000 tonnes this year, thing to 24,000 tonnes in 1989. By 1990, Michilla is expected to produce between 40,000 and 44,000 tonnes of copper a year annually in the early 1990s. Punitaki, the company's small gold mine, will start producing today at the rate of about 11,000 troy ounces a year and a cost of \$180 an ounce. at below 40 cents a b, com-pared with the current 55 cents and 65 cents last year. Mr Luksic said the Interna-

Mr Luksic said Antofagasta's original railway business continued to generate a healthy profit.

Michilla project in exchange for an equity stake of between 30 and 35 per cent. Antofagasta hoped to buy the outstanding 35 per cent of Michilla it did

conventional methods to just

30 minutes.

30 minutes. Mr John Jacobson, steel ana-lyst at AUS Consultants, says: "The company is extremely" forward-thinking, the prospects for this new mill are very bright."

At the same time, inland has focused its bar and structural

focused its har and structural operations on producing spe-cial-quality alloy steel and engineering bars, cutting out the commodity-grade steel bars. The bar and structurals have been formed into a new division with \$100m earmarked for an update of their facilities.

The boom in the US steel

market partly results from a set of import restraints on sbeel, which limit the amount of foreign steel for sale. It is also founded on a resurgence in manufacturing on the back

Steelmakers have cut back so much in recent years that

so much in recent. years that, several analysts have pointed to the need to restart idled capacity to fulfil the booming demand, fuland itself had diff-

culties filling some orders last year when the company was experiencing teething troubles

with some new equipment.

of a lower dollar.

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SUMI

ANZ Sec

LITTON INDUSTRIES, the The chief advance came in West Coast defence and electronics gronp, yesterday reported a 23 per cent increase in earnings for its fourth quarter to July, due to a strong performance in its industrial

In this division, profits rose The Beverly Hills contractor said its earnings in the quarter where \$43.7m or \$1.66 a share, while revennes advanced 6.5 per cent to \$1.31bn. For the while revenues advanced 6.5 per cent to \$1.31bn. For the year as a whole, Litton enjoyed

ton's largest and most profitable division, earnings were almost unchanged at \$52.9m in the quarter and \$188.2m for the year because of start-up costs on new contracts.

# Canadian bank ahead

#### By Robert Gibbens in Montreal

a 21 per cent increase in net income to \$167m or \$6.33 a

share on the strength of a 10

per cent rise in sales to

The decision to sell reflected a resolve to continue focusing BANK OF NOVA SCOTIA, on core businesses - commer-Canada's fourth-largest char-tered bank, has reported earncial aviation, military avionics and space markets. Last month, Honeywell reported that pet income in the second quarter had fallen by 41 per cent because of problems with defence contracts and a semiconductor product line in its solid-state electronics divi-

of C\$333m. ings of C\$368m (US\$299m) or C\$2.02 a share for the first nine months of fiscal 1988, up from year were C\$112.8m or 58 cents a share, against an operating net of C\$118.7m or 69 cents in C\$359.7m or C\$2.09 on an operating basis a year earlier. There were fewer shares out-

standing in the 1987 period the October 27 payment. which, including special prohi-

# **Industrial division** helps boost Litton By James Buchan in New York

Litton's industrial division, where it is the leading provider of seismic services to the oil and gas industry and runs a large factory automation busi-De

#### Inland owns a 60 per cent stake in the new mill, which is due to be operating by the first quarter of 1990. The company has invested about \$400m in cntting capacity by at least 30 includes 41 service centres per cent and slashing its work nationwide, grouped into two force. Although cost-cutting and and T.M. Tull Metals. A s the US steel industry struggies out of the doi-drums of the past 10 years, Chicago's Inland Steel is taking advantage of its recent cost-cutting measures and is riding high on a boom in the steel market. The service centre chain con-, productivity improvements continue, Inland is roughing the benefits of most of its large the operation, which, using Japanese technology, will cut down the processing time for steel coils from 12 days using The service centre chain corr, tributed more than 40 per cent to the company's first-half profit this year, a figure which, is likely to grow as the indus-try pushes more of its process-ing and finishing functions out to the centres.

adjustments. The company's steel operat-ing margin has risen to \$45 a ton, a sharp reversal of the period several years ago when it was losing almost that smount per ton. Since the com-

amount per ton. Since the com-pany pulled itself out of a stretch of losses in 1985, it has seen earnings on a steady upwards curve. In 1980, when the company launched its cost-cutting pro-gramme, it decided it would be known as a steel producer and marketer. Inland moved to get out of its marginal businesses.

out or its marginal outnesses. The sale of its housing, con-tainars, and special machinery sides is almost complete, although it is still trying to get rid of a hotel in Kalamazoo, Michigan. At the same time, the com-US customers return onshore for their needs. It feels confi-

dent it will be able to retain these customers. Mr Frank Luerssen, chair-

pany has boosted its chain of man, says: "We're gatting a double whammy. We've made a substantial improvement in steel service centres - distri-bution centres that market and

process steel — as a way of reducing its vulnerability to a cyclical downturn in steel. Mr Luerseen says that the service centres and steel pro-duction side complement each However, much of Inland's

other as the company can take cash out of the centres to offset the high fixed-capital costs of improving, have returned only to their 1982 levels.

rs at a statter of record only

New Insue

# NICHIREI CORPORATION

# U.S. \$100,000,000

4<sup>1</sup>/<sub>2</sub> per cent. Bonds due 1992

Warrants to subscribe for shares of common stock of Nichirei Corporation

Issue Price 100 per cent.

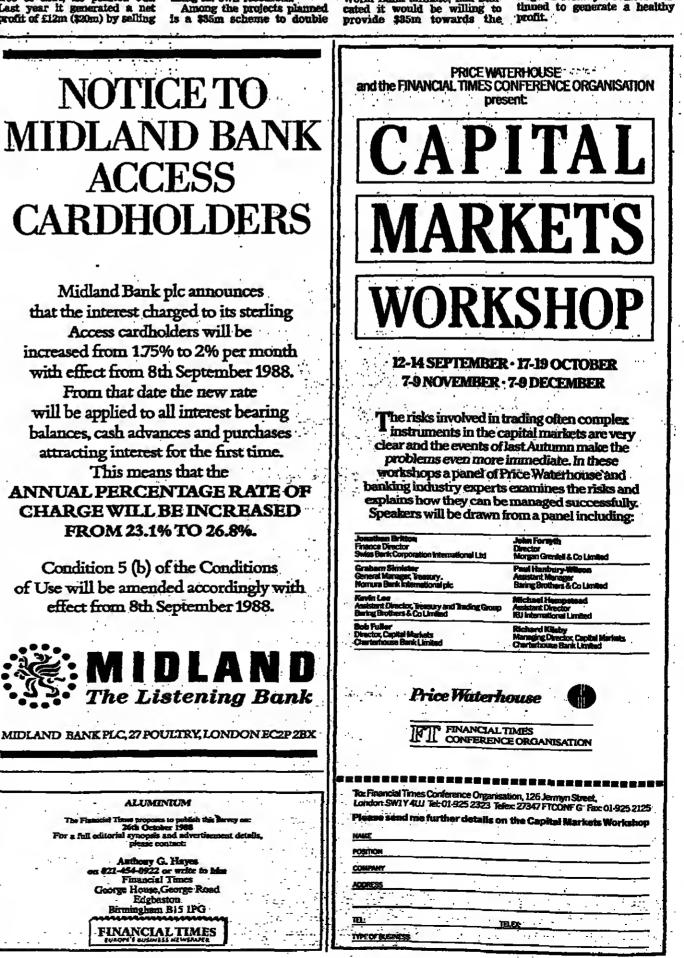
Yamaichi International (Europe) Limited

Fuji International Finance Limited

The Nikko Securities Co., (Europe) Ltd.

DKB International Limited Bank of Tokyo Capital Markets Group Baring Brothers & Co., Limited DG BANK Deutsche Genossenschaftsbank Goldman Sachs International Corp. Kleinwort Benson Limited Manufacturers Hanover Limited Morgan Grenfell Securities Limited Nippon Kangyo Kakumaru (Europe) Limited Salomon Brothers International Limited Shearson Lehman Hutton International Westdeutsche Landesbank Girozentrale

Algemene Bank Nederland N.V. Banque Paribas Capital Markets Limited Daiwa Europe Limited Robert Fleming & Co. Limited IBJ International Limited KOKUSAJ Europe Limited Merrill Lynch International & Co. Morgan Stanley International Nomara International Limited J. Henry Schroder Wagg & Co. Limited Union Bank of Switzerland (Securities) Limited Yasuda Trust Europe Limited



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FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988 -



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Raul Gardini: doing well

the disposal has led to a net increase in META's capital of

out of the merger

L176.5bn.

# Alusuisse hopes to resume payout

#### By John Wicks in Zurich

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ALUSUISSE, the Swiss light metals and chemicals group, hopes to resume dividend pay-ments this year after an absence of three years.

The company, which ran up losses totalling SF1.3bn (\$828m) in 1985 and 1986, had returned to health somer than expected, Mr Hans Jucker, the chief executive; said yesterday.

He attributed the improvement to "the excellent eco-nomic situation, the corre-sponding demand for bulk products and the sharp rise in the aluminium price." Parent company income

before extraordinary items was

By John Wyles in Milan

By John Wyles in Milan MR RAUL GARDINI'S reorganisation of his Ferruzzi-Montedison empire-passes a milestome today with the stock market debut of Ferruzzi (Fer-fin), the holding company pre-viously controlled by the Fer-ruzzi family. Ferfin arrives at the Milan and Bologna stock exchanges as a result of the fusion between Ferruzzi Finansiaria and Iniziativa MKTA, the prop-erty, retailing and financial services company hitherto 64 per cent-controlled by Montedi-son.

The venture is not without some sacrifice for the four heirs of the company's founder, Mr Serafino Ferruzri (Mr Gardini's father-in-law)

expected to more than double this year, Mr Jucker said. In 1987 Alusuisse turned in a

profit of SFr28m 'at this level against a SPISS in loss in 1966. After extraordinary items, per-ent company net carnings last year totalled SPi74.4m against losses of SFi554.9m.

The company reports good business in both the alumin-hum and chemical divisions for the first half of this year.

40 per cent. This level of shareholding has been sufficient for the Agnelli family to maintain con-trol of Fiat, but if it does not prevail at Ferfin, the family says it will raise its holding. In material terms, most ana-lysts believe that Mr Gardini and his family are doing well out of the fusion. According to the Ferfin pro-spectus, META shareholders are receiving 15 Ferfin for four META, a valuation which was initially judged by many to be on the modest side, and which has remained unaltered despite the disposal of a 70 per cent stake in the Standa retuiling chain to the television mag-nate Mr. Silvio Berinsconi for LS69bn (370an).

The Ferfin prospectus says

Group turnover rose by 14 per cent to SF12.88bn. Second-half sales and earnings are expected to be of the same order as those for Janu-ary-June. Cash flow, which grew from SFr190m to SFr290m

Market debut for Ferruzzi Finanziaria

in the first half, should be this transaction and from cash enough to finance an "excepflow.

tionally high level of invest-ment," put at around SFr500m. Mr Jucker said Alusuisse's Alusuisse also announced that it has acquired a 50 per cent stake in the German packactivities, at both operating and holding company levels, had fiscal disadvantages. As a result, reorganisation based on aging company Weidenham-mer Packungen, a specialist in composite cans with 400 employees and annual sales of the formation of a holding DM60m (\$32.2m). The group is also negotiating to take over a plastics processor in Germany. Alusuisse is also to particicompany to act as group par-ent is planned. A decision is expected in about a year

The company plans to return to the capital market next week with a SF150m, eightpate with Amag (Austria), Hoo-govens (Netherlands) and Ganges (Sweden) in the creation of a second aluminium year bond issue bearing a 4.75 per cent coupon. Subordinated bank loans would be gradually repaid from the proceeds of smelter in Iceland with a final capacity of 200,000 annual

**ABB** heads for strong profit gain in 1989 By Sara Webb in Stockholm

ASEA BROWN Boveri (ABB), the Swedish-Swiss electrical engineering group, yesterday reported profits (after financial

Initially, Montedison will be holding just over 32 per cent of its parent company but since such a cross shareholding is forbidden by Italian law, it will offer these Ferfin shares to its. disposals.

stockholders sometime before November of next year. This sale is expected to make a contribution of around L1,200bn to Mr Gardini's crash programme for cutting Monted-ison and Ferruzzi's combined business areas and regions. It expects earnings for the second half to be higher than in the first six months.



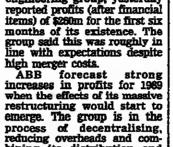
restructuring would start to emerge. The group is in the process of decentralising, reducing overheads and com-bining its distribution and sales forces, which it expects to

lead to lower production and distribution costs, and greatly On the basis of yesterday's closing price for META, Ferfin shares should open at about 12,920 today, giving the Fer-ruzzi group a market capitalis-ation of close to L3,410bn. Turnover totalled \$8.50bn, an increase of 30 per cent for comparable units once acquisitions and divestments are taken into

account. Order intake amounted to \$9.28bn in the first half, a 15 per cent rise adjusting for acquisitions and dimension ABB took over the electrical

engineering operations of Asea of Sweden and Brown Boveri of Switzerland with effect from January 1988 and is owned equally by Asea and Brown Boveri. ABB said there was considerable scope for improv ing earnings in most of its

borrowings, which at the beginning of the year stood at around L11,000bn.



# U.S. \$140,000,000



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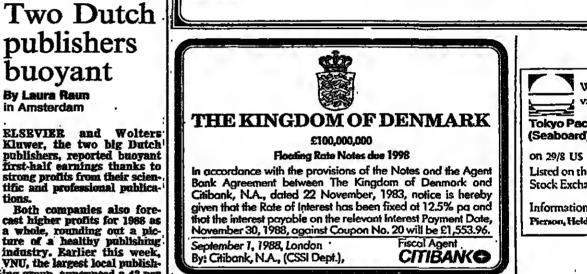
#### **Osaka** Prefecture

93/s per cent. Guaranteed Bonds Due 1993 unconditionally and irrevocably guaranteed as to payment of principal and interest by Japan

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#### Bank of Tokyo Capital Markets Group Daiwa Bank (Capital Management) Limited J. P. Morgan Securities Ltd. Banque Paribas Capital Markets Limited **Chase Investment Bank Credit Suisse First Boston Limited** Daiwa Europe Limited Deutsche Bank Capital Markets Limited **Goldman Sachs International Corp. IBJ International Limited** Kichtwort Benson Limited Kredictbank International Group Merrill Lynch International & Co. Morgan Stanley International Nomura International Limited Salomon Brothers International Limited Sanwa International Limited mitomo Finance International SBCI Swiss Bank Corporation Investment banking Union Bank of Switzerland (Securities) Limited S.G. Warburg Securities Yamaichi International (Europe) Limited

NEW ISSUE



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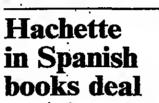
This announcement appears as a matter of record only.

# **\$56,000,000** Revolving Credit Facility

#### Arranged and Managed by: ANZ Securities (USA) Inc.

# Funds provided by

Australia and New Zealand Banking Group Ltd.



#### By George Graham in Paris

HACHETTE, the leading French publisher, has agreed to buy Salvat, the fifth largest publishing house in Spain, for around FFr350m (\$55.3m). The purchase of Salvat fol-lows Hachette's two big US acculations earlier this main of acquisitions earlier this year of Diamandis, the magazine group, for \$712m and of Gro-lier, the encyclopaedia pub-

lisher, for \$470m. Like Grolier, Salvat speci-alises in the reference books market and is expected to give Hachette a strong footbold in the expanding Spanish language publishing market. Around a quarter of Salvat's sales are already in Latin

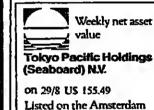
profit. Elsevier said its earnings surged 25 per cent to Fl 101m. (\$48m) from Fl 81m following across-the-board improve-

**Interest Rate Change** 

AUGUST 1988

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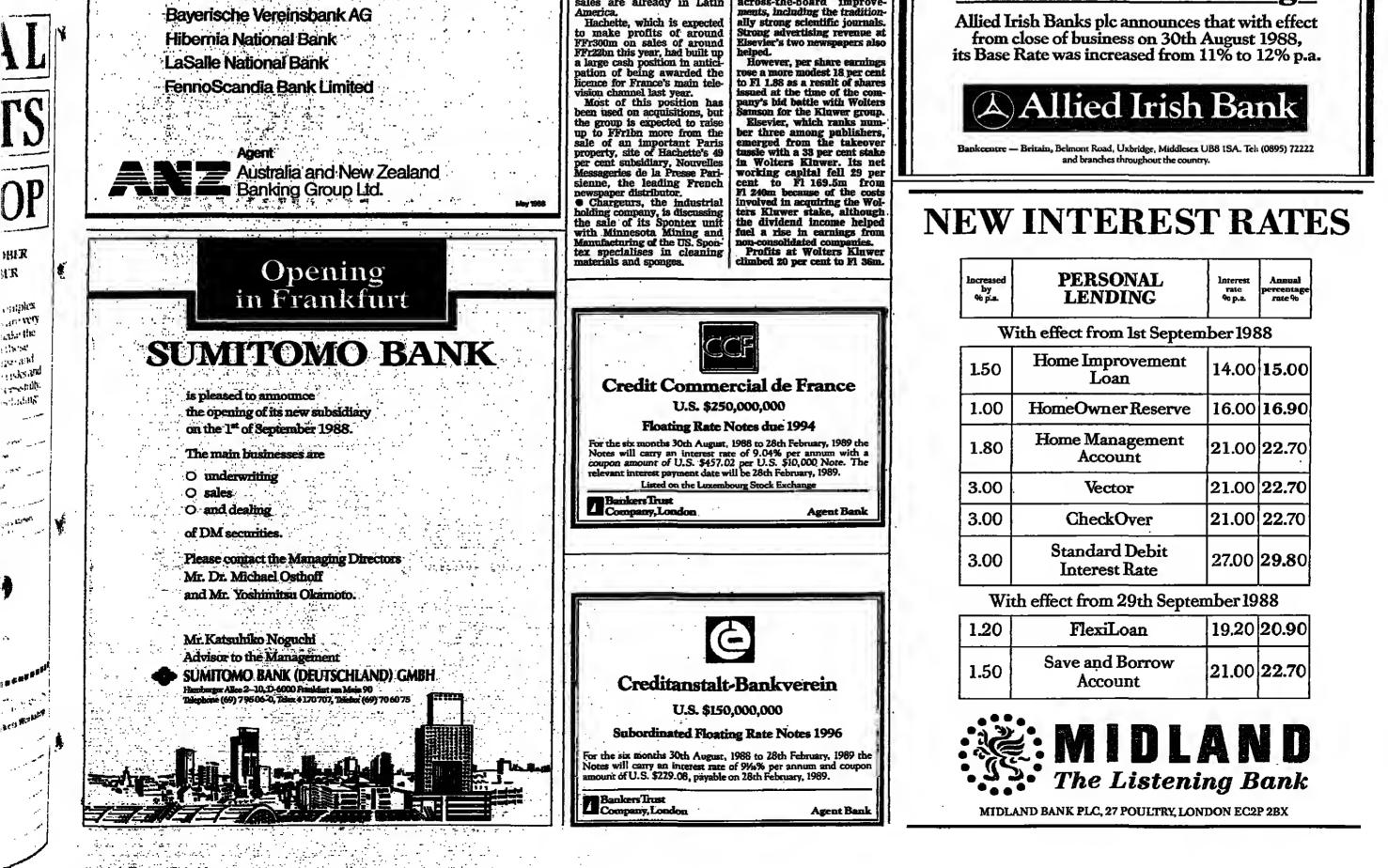
Stock Exchange Information:

Pierson, Heldring & Pierson N.V.

publishers buoyant By Laura Raun in Amsterdam

ELSEVIER and Wolters Kluwer, the two big Dutch publishers, reported buoyant first-half earnings thanks to strong profits from their scien-tific and professional publications.

Both companies also forecast higher profits for 1968 as a whole, rounding out a pic-ture of a healthy publishing industry. Earlier this week, VNU, the largest local publish-ing group, announced a 42 per cent gain in first-half net



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BOARD #

#### INTERNATIONAL CAPITAL MARKETS AND COMPANIES

# Foreign banks find going hard in Tokyo

#### Stefan Wagstyl looks at a post-deregulation dilemma

FOREIGN BANKS io Japan have been left behind by the explosive growth of the Tokyo financial markets. With a few conspicooos exceptions, they have failed to take advantage of Japan's financial liberalisation in the 1980s. And in the face of intense competition from the Japanese banks, they are unlikely to find the next five years any easier than the last five.

"It's a lot harder to make money bere as a foreign bank than in Hong Kong, London, or New York," says Mr Robert Binney, geoeral manager of Chase Manhattan in Japan.

It was not meant to be like this. Before the Japaoese authorities began to deregulate inancial markets in the early 1980s, it was widely supposed by bankers that liberalisation would open opportunities for profit. US and European banks lobbied eagerly for the chance to compete directly with the banks in serving Japanese industry. But in practice, it is the Jap-

aness baoks which bave gained most from deregulation taking advantage of rule changes which allowed them into fields previously reserved for foreigners.

European banks in particular are still expanding their business in Japan. Both Bar-clays and National Westminster, the two largest UK banks, have invested in upgrading their operations in the past year. They bope that contacts made in Japan will win busi-ness from the growing number of Japanese companies established in Britain. This desire for closer links is also reflected in NatWest's plans yesterday

for a Tokyo share issue. Collectively, however, foreign banks are in a worse position than they were before liberalisation began. The foreign share of the assets of financial institutions has fallen from 4.4 per cent in 1979 to 3.8 per cent last year, according to the

Bank of Japan. The foreigners' share of the profits cake has shrunk to a few crumbs - from 3 per cent of total bank profits in 1979 to less than 1 per cent last year. The figures, prepared for the Japanese tax authorities, almost certainly make things look worse than they are. Moreover, much of the benefit of operating in Tokyo accrues elsewhere - Japan business from Japanese companies in the US or the UK, for example.

Also, there are markets in which overseas banks do well, notably foreign sxcbange, where they have the advan-tages of skilled staff, strong international links and a long-established presence in Tokyo. But even bere foreigners' market share has fallen, from 38.5 per cent to 31.4 per cent since 1979. Moreover, foreigners as a group - with signifi-cant exceptions - have failed to turn this bastion into a platform for laund other markets. So where

Algemene Banl

new emphasis on growth in profits, not in assets. These moves partly reflect conditions in Tokyo and partly the gen-eral need of American banks to shrink their assets in view of Third World debt problems. These pressures have been reinforced by the ratification of tough international standards on capital adequacy this sum-mer by the Bank for interna-

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to turn this bastion into a form for launching attack other markets. So where do the for	s on	banks, wi	ntrast, th stro	_	ice life assurers. ike Costs have a	nal banks and also been cut.
T	OP T	EN FOR	EIGN E	ANKS I	N JAPAN	
BY BALANCE SHEET SIZE				BY PRE-1	AX PROFITS	
	Ybn	(1987)	1988	(1987)		Ybn
Deutsche Bank	362	(2)	1	(2)	Bankers Trust	4.32
Société Générale	329	(1)	2		Chemical	2.31
Crédit Lyonnais	328	(3)	3		Morgan Guaranty	2.26
Banque Indosuez	325	(4)	4		Irving Trust	2.12
Union Bank of Switzerland	283	(15)	5		Korea First Bank	1.94
Algemene Bank Nederland	277	(8)			Renaue Paribes	1.62

banks go from here? How can they continue to justify the cost of staying on in Tokyo when net return on assets last year averaged 0.15 per cent, about half the level for Japanese banks?

Banque Nationale de Paris

Westdeutsche Landesbank

National Westminster

Swiss Bank Corporation

Banks say there are two fundamental reasons wby busi-ness has been so difficult. The first is that Japanese companies prefer to stick to long rela-tionships with their bankers. So newcomers have to spend much more time than else-where building contacts with their clients,

Even then, Japanese compa-nies usually do not give foreigners more than a small slice of their business. So the for-eign penetration in the market is lower than in the US or in the UK.

Next, foreigners have little access to the huge pool of Japanese savers' deposits, where Japanese banks raise the bulk of their funds. Instead, overseas banks which want to lend first have to borrow the funds in the money market. In the 1980s, Japanese companies' credit rating has increased relentlessly as their cash reserves have grown - so bank margins have declined. US banks, the traditional leaders among foreign banks in Tokyo, have reacted by cutting their loan books and putting a

Hongkong & Shanghai First Chicago First Interstate California (33) (8) (10) (12) Banque Netionale de Parie to build relations with Japanese industry. As a result, while European banks top the list in terms of assets, a small group of medium-sized US banks is the most successful in terms of profits. Bankers Trust, Chemical Bank, Morgan Guaranty Trust

and Irving Trust were among the first to switch the emphasis from lending to providing commission-based services. They boost this income by own-account trading, which in a good year -- when markets are volatile - can generate substantial extra profits. These banks sell skills in treasury management, in for-

eign exchange, money markets, and corporate finance. They tend to concentrate on the biggest Japanese companies --those which are often the most receptive to changes in treasury management. The aim is to stay a step

ahead of Japanese banks which are quick to copy successful new products. "Just renting out the balance sheet in Japan is a mug's game," says an exec-utive at one of these banks.

The glant US retail banks, headed by Citicorp, Bank of America and Chase Manhattan, have taken longer to turn from assets to profits - not least because they are carrying much larger loan books.

its total payroll from 650 to 580. for example, and Citicorp has trimmed its main banking staff by 100 to 400. Continental Illinois has closed its office in Osaka. Even top executives are having to live with the times - Chase has sold its general manager's landmark residence. The picture is not entirely negative. Although Citicorp, for example, incurred a pre-tax loss last year of Y2.78bn, much

The full-service banks were

to cut their assets, largely because they were particularly severely hit by Third World debts. In Japan, these banks

have been selling loans to

other companies - mainly

1.62

1.47

1.42

1.36 1.23

of this was accounted for by investments in services to retail customers. Unlike other foreign banks Citicorp is aggressively pursuing the indi-vidual customer. It plans to expand its branch network from six to perhaps 20 to 30 outlets. The consumer services staff has been increased by more than 100 to 500 in the past three years, cancelling out the cuts in the main corporate

banking division. As the US banks shrink their balance sbeets, so the European banks are expanding. Mr Koichiro Kitade, country treasurer for Citicorp, says: "The European strategy is totally different from ours."

The Europeans have sup-planted the big US banks as the biggest foreign lenders in Tokyo. With stronger balance sheets, they can afford to increase their loan books with-out worrying so much about

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the new international rules.

among the first to establish themselves in Tokyo after the Second World War and grew into the biggest foreign lenders to Japanese industry. But in the 1980s they have been forced to out their exects Dr Hans-Dieter Laumeyer, neral manager of Deutsche general manager of Dentsche Bank in Japan, says the Euro-peans are filling a need for loans in the market, as Japa-nese banks are close to their self-imposed lending limits.

> There are doubts about the quality of some of this bush-ness. Many Japanese compa-nies turn to foreign banks not for long-term capital invest-ment loans but for short term funds to play the money mar-kets - an activity called *zai-tech*. The risks on these investments are usually very low;

but so are the bankers' mar-gins. Moreover, it is a thin basis for building a long-term relationship with a company. Nevertheless, Buropean

For Europeans and Americans alike, the trick will be identifying fields where they have a potential competitive edge over Japanese rivals, for example, serving subsidiaries of Japanese companies abroad.

It is also possible that fur-ther financial deregulation might work in the foreingers' favour. Full liberalisation of interest rates might allow overseas banks greater access to Japanese savings, which are a perennial source of cheap funds for Japanese banks.

However, more deregulation may simply mean more compe-tition. For example, plans to further liberalise foreign, exchange might allow Japanese securities companies (as well as foreign ones) greater access to the markets.

One British banker says despondently: "I can tell you we should be in niches in five years' time. But 1 can't say what they're going to be."

Some banks can hope to keep far enough ahead of the pack to make money from their niches, but the rest will be left wondering whether the prestige of being in Tokyo is worth the considerable cost.

By Our Euromarkets Staff A SHARP fall in the yen against the dollar, after weeks

of stability, threw several sec-tors of the Eurobond market into disarray, forcing the postponement of several new dollar sues and an equity warrant bond.

Dond. The turmoil began after the close of Tokyo stock and bond markets yesterday when offi-cials of Japan's central bank said the yen's recent weakness against the dollar was too insignificant to require a insignificant to require a change in the discount rate. The remarks promptly

pushed US Treasury bonds more than a half-point higher and sent Japanese government, bonds tumbling. In addition, equity warrant bond prices fall over a point in the primary market, while in the secondary market traders said prices of the warrants themselves fell by

"It was one of the half-dozen worst days we've ever had," said a trader at one secondary. t-maker. While the Bank of Japan's comments on its own currency came after the close of stock

exchanges, the widespread expectation is that the key Nikkei index will open sharply lower today, reflecting increas-ing investor anxiety about the yen's slide against most major currencies. Current gearing ratios cause equity warrants to lose 4.2 per cent in price for every 1 per cent drop in the underlying stock price.

Daiwa Securities was said to -have postponed the launch of a \$100m equity warrant bond offering for Maradai Food due to the drop in the equity war-

bond prices fell a much more rant murket. The firm fixed the coupon on \$200m equity warmodest % point among shorter issues, with prices supported by a general shortage of paper. rant bonds for railway operator Hankyu at the indicated 4% per cent level, but said the issue is trading at a hefty dis-count, of 96 bid. oy a general shortage of paper. Denische Bank Finance, a financing unit of Deutsche Bank, issued a DM600m aix-year issue with a 6 per cent coupon and priced at 100%.

Eurodollar issues shelved

after sharp fall of yen

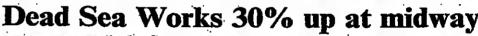
In the primary market, the dollar's surge unnerved the markets by driving up the prices of US Treasury bonds by as much as a half-point. Euro-dollar bonds, meanwhile, were unchanged to a more modest % point higher, as sales by Japanese investors cashing in on currency gains held prices in check. . ....

#### INTERNATIONAL BONDS

also hurt sentiment. Euro-bonds opened firmer in line with the US Treasuries, but slipped from the day's highs as the dollar firmed. Prices closed unchanged to slightly easier. The markets are awaiting As a result of wider spreads between Treasuries and Eurothe Bundesbank's announce-ment today on whether it will onds, the window snapped shut on the fingers of underadd more liquidity when it writers hoping to launch a series of new fixed-rate dollar Eurobonds and swap the proreplaces a repurchase agree-ment of DM24.2bn ceeds into floating rate funds. A single straight dollar Euromarket ended the day nar-rowly mixed, although Japa-nese equity-linked issues eased in line with the Tokyo\_stock bond was launched, leaving deals for several other borrowers still in the pipeline. Finnish Export Credit issued market. .. Two new Japanese borrow-ers issued convertible debt-in Switzerland as private place-

a \$150m three-year Eurobond via Mitsubishi Finance. The AAA-rated bonds carry a 9% per cent coupon and a 101% issue price to yield 46 basis points over Treasuries. The bonds closed inside the 1% per cent fees. Meanwhile, yields on Japa-

nese government bonds rose more than 10 basis points, an unusually large rise for the London trading day. Euroyen



chemicals company, reports a 30 per cent increase in firsthalf net profits to \$26m, mainly on the strength of improved world prices for potash, writes Andrew Whitley in Jerusalem. Sales at the state-controlled

DEAD SEA Works, the Israeli company grew by the same porportion to \$251m as exports rose strongly. Dead Sea Works produces potassium chloride, magnesium chloride, table salt and bath salts from deposits in and around the inland sea. Dead Sea Bromine, a subsid-

lary which is one of the world's largest producers of bromine and bromine compounds, dou-bled net profits to \$8in, in line with the general recovery being enjoyed by the Israeli chemical and petrochemical industries.

The issue was lead managed by the parent which also guaran-

teed the bonds. West German domestic and

Eurobond prices ensed. Bomes-tic bond prices fell by as many as 25 basis points on the dol-lar's strength while the announcement of a new federal

government bond next Monday

The Swiss straight bond

20.0

ments. Japan Air System launched a SFr100m five-year-issue with an indicated coupon

of % per cent, while Apollo

Electronics issued a SFr50m issue, also with a % per cent

indicated coupon. Indicated

yields to puts on the two issues are 3.47 per cent and 3.22 per

cent respectively.

#### FT INTERNATIONAL BOND SERVICE

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Nevertheless, European banks see this as a way of get-ting a foot in the door, enabling them to sell more profitable services such as treasury skills. "Lending is often a loss-leader," says Mr Stuart Matthews, banking ana-lyst at BZW, the securities arm of Barrlaws Bank about 20 per cent.

of Barclays Bank.





# A show of strength

"We are proud to sell quality solutions, based on quality bearings. That's why we gladly put our co-operation with SKF on show. United strength, that's what it's all about!"

S o says Jules Foets of the firm Baudoin in Mol, Belgium, one of the 7,000 independent, authorized distributors of SKF bearings all over the world. In total these distributors offer their services to some half a million customers, in every imaginable industry.

They provide rapid availability from stock, they give technical aid and advice, they assist with specifications and installations and they carry out maintenance and service to ensure trouble-free running.

They are a vital element in preserving confidence and contacts between SKF and the end users of our products.

Sales of the SKF Group for the sixth months ended June 30, 1988 rose 6.9 percent to SEK 10,588 m com-

pared with the same period 1987. Of this sum, sales of rolling bearings amounted to SEK 8,872 m (8,436).

Income after financial income and expense was SEK

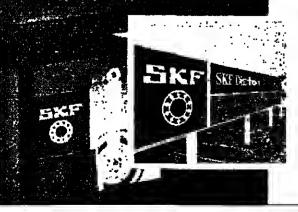
SEK 583 m (538). Income was SEK 70 m (66). For Component Systems, our third business area, sales reached SEK 1,421 m (1,172), and income climbed

459 m (476). For the business area Tools, sales totalled

from SEK 79 m to SEK 96 m. In total, Group income

after financial oet amounted to SEK 626 m (611) which corresponds to act earnings per share after taxes of SEK 14.60 (14.50). Group income for the second half-year is

The SKF Group first six months	1987	1988	Stiles 10.000 MSEK*		Income and expense 1,000 MSEK*
Sales, MSEK	9,901	10.588	8.000 B		800
Income, after financial income and expense, MSEK	611	626	6.900		590
Income per share, SEK	14:50	14:60	4,000		480
Capital expenditures, MSEK	452	482	2.980	- <b>-</b> -	209
Number of employees at work	43,236	42,703			
· 1986 values excl. steel operations 1 GBP=10.85 \$	EK		- 1986 1	1987 LUES.	1986 1487 54



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Aktiebolaget SKF 415 50 GÖTEBORG Sweden

### Australian broker into red By Bruce Jacques in Sydney

JACKSONS, Australia's first. listed stockbroker, slipped into the red for the year to June, showing the effects of the October share crash. Mr Bob Plafflin, group man-

aging director, yesterday announced a A\$7.7m (US\$6.2m) net loss for the period, com-pared with A\$6.2m profits. The result largely reflects an effective A\$5m provision for doubtful debts.

Jacksons, a leading under-writer of the more speculative boom listings, was floated in July 1987 near the peak of the bull market at A\$4 a share, but its shares have fallen to its shares have fallen to around 70 cents following dis-closure of a first-half loss of A\$2.3m. Yesterday's announce-ment confirmed that losses continued following the crash, forcing the group to carry out a restructuring.

Mr Pfafflin said the company UTSCHE MARK

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had returned to the black since June. "Jacksons has now suc-cessfully restructured its scrip administration department, introduced a new finance brok-ing service which is generating profit, developed an active options team and shifted its stockbroking amphasis to leader stocks supported more by selective research."

McIntosh Securities, the only other listed Australian broker, has yet to report its results.

**Japanese** stores group plans HK unit flotation By John Elllott

In Hong Kong YAOHAN HONGKONG, owned

YAOHAN HONGKONG, owned by Yaohan Departmentstore of Japan, is to raise HK\$75m (US\$9.5m) by floating a quarter of its shares on the Hong Kong Stock Exchange. It will be the second Japa-nese company to obtain a Hong Kong quotation. The first was Kumagai Gumi, the construc-tion company which floated its local unit in May last year. Japan is playing an increas-ingly significant role in Hong Kong's economy and it already has a big presence in the stores sector. Yaohan Hongkong oper-ates two stores and is planning

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sector. Taonan Hongkong oper-ates two stores and is planning to use funds raised by the flo-lation to finance a third. The 75m shares are priced at HK\$1 each. Applications will close next Tuesday and deal-ings are expected to start on

BKF

judged to be on par with that of the first half-year.

ings are expected to start on

10

### **UK COMPANY NEWS**

# Burmah pays £8m to expand

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**Speciality chemicals division** BURMAH OIL, the lubricants and fuels distribution company, is expanding its speciality chemicals operation with the acquisition of APP Chemicals for 28m, writes Vanessa Houlder, APP Chemicals is a European refiner and marketer of atactic polypropylene, a material used in construction, textile and paper converting induction.

converting industries. It owns a UK operation at Market Drayton and a Netherlands based subsidiary, Performance Polymers. The newly acquired company will join Burnah's coating divi-sion, which specializes in compounds for the cable filling industry and speciality waxes, polymers and resins for packaging and other industries.

other industries. Burmah said the acquisition was in line with the strategy of the speciality chemicals division of expansion in niche markets. In addition, APP's technology and markets are expected to be a good fit with other companies in the coatings division. Burmah's Speciality Chemicals side is comprised of five divi-sions: coatings, adhesives, printing inks, sealants and water man-agement. In 1987, speciality chemicals produced a trading profit of £15.6m on sales of £173.6m.

#### Raine raises stake in Ruberoid

RAINE INDUSTRIES, the housebuilder bidding \$127m for Ruberoid, has increased its interest in the building materials group to nearly 15 per cent through additional jurchases in the market by an associate company, writes Clay Harris. Takeover rules will now limit total market purchases by Raine and its associates to less than 30 per cent, since they failed to pass that threshold by yesterday, a formight before the offer closes on September 14. The Raine bid is final unless a competing offer emarges. offer emerge

With its share price unchanged at 87p, Raine's main shares and cash offer is worth 2849. Ruberold shares also close unchanged at 253p, only 1p below Raine's cash alternative.

DIVIDENDS ANNOUNCED

7.f.a

Current Date of ponding for payment payment dividend year

Jan 6 ....

Jan 4 Oct 14

Oct 6

. . .

Nov 24

Oct 14 70.58

.1.15

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0.14

0.75

201

# Lower interest and investment income holds back profit rise MCC just ahead at £72m halfway

The Canadian Government has ordered an investment review of Maxwell Communication Corporation's entry into Canadian text' book publishing, writes Robert Gibbens in Montreal. When MCC

bought US-based Science Research Associates in July, it also

#### By Raymond Snoddy

MAXWELL Communication Corporation, Mr Robert Max-well's printing, publishing and information company, yester-day announced half year operating profits of £50.7m, an increase of 33 per cent on the same period last year. Sales at £505.7m ware up 37

per cent and the company said that the bulk of the profits had some from core businesses and an associated company, Dono-hue of Canada, the pulp and newsprint manufacturer.

**BSR** says

Total last year

3.4

174

9.5

8.24 3.51 14

0.64

7.3

Sept.12 Sept.12 Sept.15 Sept.13 Sept. 2 Sept. 9

2.25

Pre-tax profits were however static at £71.9m compared with £70.5m in the six months to June 1987. The biggest influence on the figure was a drop in net interest and investment income from £32.1m to only £9.7m this time.

Mr Maxwell, chairman, said the stock market crash and acquisitions probably meant

acquired a Canadian textbook publishing and distribution sub-sidiary. The Otiawa Government has retained the right to review foreign acquisitions in book publishing and other cultural fields, a highly sensitive area politically. The Cabinet has also said foreign buyers of publishers must find a Canadian pariner within two years. in the second half.

the end of large contributions to the balance sheet from the treasury function. We have converted treasury announcement of the compa-ny's half-year results to his

earnings to the operation of our core businesses," said Mr Maxwell recently returned from an unprecedented summer holiday of nearly four veelos

to be at a meeting on the agreed takeover bid for AGB. The chairman said the greater proportion of the com-pany's carnings would be made centre stage - for abont 15

minutes - until Robert Maxwall rolled up He announced that the com-

pany was planning to package its expertise across the whole field of communications from print to broadcasting to advise Third World governments on how to set up national communications systems.

ance group which he controls. FAI first emerged publicly as a large Pearl shareholder in January 1988, when Mr Adler, Mr Ian Maxwell, responsible for most of the French operations, said a greenfield the Australian corporate site had been bought near Charles de Gaulle airport to raider, disclosed a 5.43 per cent build a newspaper contract printing plant. When com-pleted it will print copies of stake amid market comment that Pearl was a bid candidate. News of FAI's latest increase in its holding came shortly after Pearl's announcement yesterday of a 32 per cent rise The European, Mr Maxwell's new European daily Mr Ian Maxwell also said the

company still intended to in half-yearly pre-tax profits to launch a mid-market French £28.88m. national newspaper and print Pearl ranks about 15th biggest in premium income terms among the UK's life assurance it on the new presses.

See Lex

pany in the consumer products field. The group had been looking at "half a dozen deals every week", but so far they, had "all been too expensive".

· COMMENT

# Pearl advances 32% in first half as FAI ups stake to 8.09%

#### By Nick Bunker

SHARES IN Pearl Group, home its actuarial valuation of its service life insurer, eased 1p to life funds until the year-end, 470p last night despite news that Mr Larry Adler has raised to 8.09 per cent the stake in Pearl held by FAI, the insur-Pearl's interim figures for its life sida represent a provisional figure determined by halving the corresponding totals for the previous full year.

On this basis, Pearl showed profits of £11.13m on its industrial branch business, up from f9.7m in 1987. Ordinary branch, life profits rose from £9.74m to C11.5m.

The main interest in the fig-ures was provided by a 20 per cent increase in the interim dividend to 6p, and signs of a healthy turnround into profit of Pearl's non-life operations.

The group nearly halved its non-life underwriting losses from £10.25m to £5.75m, with most of the improvement con-centrated in its home service division.

Underwriting losses on nonlife home service husiness declined from £8.23m to £3.36m, an improvement sufficient to give Pearl a £760,000 trading profit in that segment of its' business.

late claims from last October's

hurricane, GRE reported a pure underwriting profit of

See Lex

£12m in the UK.

## GRE improves 35% to £112m at six months

#### By Nick Bunker

tomer base.

Pentland's problems are obvi-GUARDIAN ROYAL Exchange, the composite insurer, said yesterday that it was increasous. In the mid-1980s, when ing its stress on growth in premium income after several years of tight discipline on underwriting, which helped the company achieve a 35 per cent increase in pre-tax profits to £111.7m in the six months

companies. But with around 6,000 agents in the field it is

second only to Prudential

Assurance among the stock market-quoted home service

insurers, which sell policies and collect premiums hy door-to-door vists to their cus-

Since it does not carry out

ending June 30. With shareholders' funds now about 82 per cent of its annual non-life premlum income, GRE is not ruling out deploying its financial strength to make acquisitions. Mr Peter Dugdale, GRE's

chief executive said: "It is conceivable that we might look at some acquisitions in the finan-cial services field not directly

now." Mr Dugdale declined to comment bowever on the outcome of Inland Revenue inquiries which followed allegations by its former chief tax accountant of irregularities regarding reinsurance payments in the 1970s. "The Inland Revenue has been through our books. There has been an almost complete silence for a very long period. I don't see this as a major problem," he said.

Its results underlined the extent to which the composite insurance sector is reaping the benefits in the UK of premium rate increases in non-life business and a stabilisation of motor claims frequency. GRE laid beavy emphasis however on the growth of its UK life side, where its joint venture with the Hambro Countrywide estate agency chain helped produce huoyant sales of mortgage related prod-

ucts. COMMENT Primarily a UK non-life insurer, GRE is well-placed to related to what we are doing weather relatively well the

incipient down-swing of the non-life underwriting cycle there and in the US. Its small US niche operation, in personal lines and marine insurance, is managing break-even underwriting results: and its West German subsidiary, aided by officially-sanctioned motor rate increases, lifted pre-tax profits 20 per cent to £7m. Bnt while GRE is obviously very competent in its operations, it cannot achieve better than mediocre

returns on shareholders"

### yesterday, started to fall last summer, fell further after the crash and still shows no sign of recovery. Pentland has produced respectable results from its other interests. It can even argue that its shares are worth 125p, on cash and Reehok alone. Yet the City is still

aione. Fet the City is shift waiting, and waiting, for the acquisition it has promised for so long. And the shares will linger - on a prospective p/e of 6.5 with projected profits of £80m - until it delivers.

Sunleigh Electronics up 22% at interim stage

By Flona Thompson

SUNLEIGH ELECTRONICS. USM-quoted electrical and elec-tronics manufacturing group, yesterday reported interim

areas of sports shoes and cloth-ing. Reebok's contribution to aerohic shoe sales - and mar-ket indices - were soaring, its bolding in Reehok turned it profits rose by 5 per cent to into one of the whizziest stocks on the London market. When Pentland's other interests saw profits rise by 47 per cent to £8.7m. Mr Rubin said that the aerobics fad fizzled out and Reebok seemed rather more mature, its whizziness faded

Holmes, its electronics comfast. The share price, at 114p pany in the US, had benefited from the impact of the East Coast heatwave on sales of its fans. Similarly Asco, which sources footwear and clothing in the Far East, had been

For the first time, it seemed,

he was going to leava the

sons Ian and Kevin, joint man-

aging directors and Mr John

Holloran, vice-chairman. The

man who personifies MCC had

Ian, Kevin and John held

the disruption to Reebok's

business caused by political unrest in South Korea, where

its production is concentrated.

holds a 32 per cent stake, has since recovered from that

unrest. In the past year it has undertaken a series of acquisi-

tions to diversify into new

Reebok, in which Pentland

Pentland recovers with 12%

hnoyed by more competitive Far Eastern exchange rates. Tha UK footwear side has seen sales increase, but margins have suffered because of competitive market conditions. Pentland has spent the past

ar searching for acquisitions. Mr Rubin is prepared to spend up to \$250m on a suitable com-

to reduce refance on Reebok by making a "quantum leap" with a substantial acquisition. Pentland's sales increased to £343.4m (£208.4m) in the six months to June 30. Earnings per share rose to 8.51p (6.94p). The hoard is raising the interim dividend to 6.5p

interim dividend to 0.5p (0.135p) as the first stage in a new policy of increasing the dividend in line with "general equity yields". The group has restated last year's interim profits to reflect the exchange rate of \$1.88 at its year-end. Last year's interim results \_ pre-tax profits of

man, said the group intended to reduce reliance on Reebok

results - pre-tax profits of 529.7m on sales of 5234.2m -were struck at an exchange rate of \$1.61.

Pentland's profits fell last year because of the impact of the weak dollar on its income from Reebok, which is based in the US. It also suffered from

Story Bar South

21 1 1 2

merger will increase to £38.5m at half-time not proceed By Alice Rewsthorn By Philip Coggan . PENTLAND INDUSTRIES, the industrial group that derives most of its income from its BSR INTERNATIONAL, Hong holding in Reebok sports shoes, has recovered from its

Kong-based electronics group, announced yesterday that its merger discussions with an unnamed party had been dis-continued. The uswa caused setback last year and has increased pre-tax profits by 12 per cent to £38.5m in the first half of 1988. BSR's shares to fall 15p to 66p. Mr Stephen Rubin, chair-

10 The company revealed on . 0.47 . --... 0.56 July 11 that it was in merger talks, but in a statement yesterday, BSR said the party with which it had been hold-ing discussions had decided at a late stage that it was unable to proceed with a merger.

In the midst of the merger talks, BSE reported interim pre-tax profits 47 per cent lower at £3.1m. However, the company said yesterday that it was confident that it could expand its electronics activi-ties independently.

In order to strengthen its management team, the group has decided to separate the positions of chairman and chief executive. Mr Brian Christopher, who currently combines the roles will remain as chairman and a new chief executive will be appointed shortly.

Summary of Estimated Results

for the half year ended 30th June 1988

First

1988

£m

828.5

108.4

(11.5)

14.8

Dividends shown pence per share net except where otherwise stated. "Equivalent after allowing for scrip issue, tOn capital increased by rights and/or acquisition issues. SUSM stock. SSUnquoted stock. 4Third market. \*Carries scrip option. \* Adjusted for subdivision. BOARD MEETINGS The following companies have notified dates of board meetings to the Stack Exchange. Such meetings are security have do not a per-pose of considering dividends. Official indice-tions are not available as to whether the dividends are interime or finals and into act-divisions shown bejow, are beend mainly on t lest year's timetables. Sept. 1 Sept. 2 Sept. 2 Sept. 2 Sept. 1 Sept. 1 Sept. 1 Sept. 2 Sept. 2 Sept. 1 Sept. 2 Sept. 1 Sept. 2 Sept. 1 Sept. 1 Sept. 2 Sept. 1 Sept. on Carde Coats Viy Degenher Delta - 10 41 . ..... 100

- بسلمو به و خد...

at Bension Int. gnetic Materia Sept. 14 Sept. 7 Sept. 9 Sept. 7 Sept. 6 S.E.E.T.

# TODAY TODAY IS- Assoc. Henriques, Blackwood Cadury Schwapes, Charlet S. Ca., (Alan), Candell, English & Overseen, Group, Home Countes Nover, Salon Lambert Howich, Becard Hidge, UK McLaughfin & Herv Nurdin & Peecock . RTZ\_Corn

ASB Barnett Kinnings

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Guardian RE Macfarlene Maxwell Comm

.....int 1.75 .....int 6t

int 0.5 int 3.3† int 1.25 int 2.7

1.81

....int.

# Cange et Att. Gange et Red C'Bre des mais

Record first half year

Premiums -

short-term business

**Underwriting results** -

short-term business

long-term business

Investment income

#### Highlights from the Interim Statement

#### ★ Interim dividend up by 17%.

 $\star$  36% increase in pre-tax profits.

#### ★ Long-term business profits growth 28%.

#### ★ 45% advance in earnings per share. - **2** "

The Interim Statement 1988 is being posted to ordinary shareho and an Interim Statement for Guardian Koyal Exchange Assurance Group is being posted to preference shareholders and uniccured los stockholders of Guardian Royal Exchange Assurance pic. "Extracted from the Company's Accounts for the year 1987 which a an unqualified Auditor's Report and which inverse hear filed

#### an unquannee Auction a sep Registrar of Companies. TAdjusted to take account of the sub-division of each 259 ordinary shu into 5 ordinary shares of 5p each. 1.1.1 Sec. 20 . 45 . . . . . .

Results by Terr	itories		1077 - 3 	El.	t 6 months	20. 2
(before taxabon)	2.11.94	0 1908. 1988		-1 11	1987	
	Net	- Under	Tanget	Net	writing	. Invest
1	Presidents .	Result	Incase.	£m.	£m	Locas
Australia	5m 39.3	(3.9)	8.3	_ 38.6	(4.4)	8.0
Germany	73.9	6.2)	8.8 13.7	65.6 137.9	(1.3) (7.5)	6.5
U.K.	336.5	11.9	43.1	313.5	(14.7)	44.0
U.S.A. Miscellaneous	70.5 174.2	(11.7)	8.3 26.2	68.4 171.0	1.8 (4.9)	21.9
	828.5	(11.5) *	108.4	795.0	(31.0)	101.7

Profit before tax			165.0
Taxation and m	inorities <u>41.7</u>	34.3	57.3
Profit attributal			
to shareholders	70.0	47.9	107.7
Earnings per sh	are 8.7	p <u>6.0</u> p	t13.4p
Dividend per sh	are <u>3.5</u>	p <u>3.0</u> p	t <u>8.2</u> p
Shareholders' fi	unds £ <u>1,263.6</u>	m £ <u>1,341.1</u> n	£ <u>1,086.8</u> m
	CHE'NEW BURINESS		
nouths	ife New Business		
nonths 7	CHEINEW Business	First 6 months 1988	First 6 months 1987
nonths 7 lavesta lag ment sit hocone	Chernew Business		
nouths Aer Invest lag noest nut Income, Im Cnr		1988 £m	1987 £m
months M den invest ing ment aut income Inn fun	enternew Business	1988	1987

. 41

New Annual Premium

New Single Premiums

51.7

166.9

Fast

1987

£m

795.0

101.7

(31.0)

11.5

Yes

1987\* (mdited)

£m

1,448.6

204.1

(63.9)

24.8

41.5

156.3

7	pre-tax profits 22 per cent higher at £1.04m. Sales for the six months to July 2 advanced ;hy 29 per cent from £7.04m to £9.1m.
	Mr Tony Merryweather,

chairman, said two areas had performed particularly well: the Powakaddy hattery-pow-ered golf trolley manufacturing husiness and the Eastleigh machinery antomation and applications engineering opera-

Eastleigh manufactures a range of small machines tools, such as automated lathes, drills and milling machines. A strong growth market is pro-viding equipment for tamperevident tops on bottles for the

pharmaceutical industry. PowaKaddy, world leader in motorised golf trollies, made the largest contribution to profits. Its biggest market is the UK, with sales growing in Australia and northern

Europe. US sales were increasing but Mr Merryweather admitted it was a tough nnt to crack with

the traditional American reli-ance on golf carts, which negate the need for a moto-rised trolley for the clubs. However, the greater emphasis

Prospects for the second half were encouraging, with healthy order books, said Mr Merryweather. The first half growth was all organic, but the

#### Isis confident after recovery in profits Isis Group, OTC-traded

construction engineer, feels set to capitalise on its profits ECOVELY.

According to Mr Lamont Park, chairman: "Profits are on plan and with the improved contributions from the core businesses and the reduced burden of interest, results are ahead of the corresponding period last year.

In the year to end-March, Isis reported pre-tax profits of £1.49m, against a loss of £2.17m. on turnover of £89.28m (£114.57m).

· COMMENT l'his result is s uv pette than analysts had been expect ing and goes some way to sil-encing the sceptics who felt that Sunleigh's growth was pri-marily acquisition led. With no purchases post-crash, these figures have proven it has an organic track record to stand alongside its well-documented turnround record. That said, its PowaKaddy trollies have not exactly bowled over US golfers, despite the much vanted American obsession with healthy bodies. But there are 16m golfers in the US and Mr Merryweather reckons he will attract enough of them to make the promotional costs worthwhile. The City is looking for £2m for the full year, which pnts the shares on a prospective p/e of about 8, way down on its pre-crash mul-tiple - but that did include a great deal of hope value. The

problem with this rating, which should improve, is that it does not support acquisition

(£26,000) was due to small

acquisition costs.

The group is raising its interim dividend 16.7 per cent to 3.5p, after increasing aftertax profits from £47.9m to £70m. Non-life underwriting losses

fell from £31m to £11.5m, on premiums up 7 per cent at £828.5m. Life assurance profits rose 30 per cent to £14.8m. Group investment income was up 9 per cent at £108.4m. The powerhouse of GRE's

the 20-30 per cent per annum increases in dividends it can probably afford to fund well into the 1990s, that would help improved performance was the UK. In spite of a net £10m of do the trick more rapidly.

# **BAT/Farmers deal closer** By Nick Bunker BAT INDUSTRIES.

BAT INDUSTRIES, the joint statement that Mr Rich-tohacco-based multinational, and Marquardt, the Washing-has come a step closer to com-ton insurance commissioner, pleting its agreed deal to buy Farmers Group, the US insurer, with the news that insurance regulators in Washington state have reversed their veto of the takeover. BAT and Farmers said in a

approved the purchase after. BAT gave commitments to continue hospital medical malpractice insurance and non-smoker premium discounts.

while its solvency margin is 82

per cent. Even assuming full

year pre-tax profits of £235m, GRE will make only a 14 per cent after-tax return on its Jan-

uary 1 shareholders' funds of £1.08bn. The planned growth in non-life premiums is welcome:

but if GRE were to implement

BAT still needs to overturn vetoes in Oregon and Idaho.

ine of the Council of The Int nel Stock Exchange of the United

### Ashley Industrial Trust p.l.c.

(Registered in England Number 421037)

Placing of 18,750,000 new ordinary shares of 5p each at 80p per share

#### by McCaughan Dyson Capel Cure (UK) Limited

#### and Rights Issue of 25,204,237 new ordinary shares of 5p each at 80p per share

Authorised £4.056.000	in ordinary shares of 5p each	issued and now being issued fully paid £2,897,836.55
		usued tuity paid

Ashley industrial Trust p.L.c. is engaged in food retailing and distribution, the manufacture of plywood and blockboards and investment dealing.

Listing Particulars relating to Ashley Industrial Trust p.l.c. are available in the statistical service maintained by Extel Financial Limited and copies may be obtained during normal business hours on 1st end 2nd September, 1988 at the Announcements Office of Tha International Stock Exchange and during normal business hours on any weekday (Saturdays and public holidays excepted) up to and including 14th September, 1988 from:

McCaughan Dyson Capel Cure (UK) Limited 65 Holborn Viaduct London EC1A 2EU

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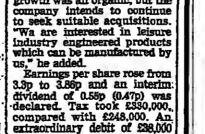
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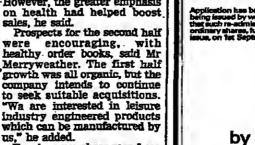
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activity.

#### **UK COMPANY NEWS**

# FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

# **Slough matches City expectations**

Acquisitive Erith advances 34% midterm

Packaging boosts MacFarlane to £3.3m

By Paul Cheeseright, Property Correspondent

SLOUGH ESTATES, Britain's improved rental values," he higgest industrial property investment and development company, yesterday satisfied the market with interim profits at the top end of expectations. The shares, which had risen in advance of the announcement,

held firm at 2359. Pre-tax profits for tha six months to Jnne 30 were 534.1m, compared with £28m last time, and resulted in earnlast time, and resulted in earn-ings per share of 8.8p (7.4p). Shareholders will receive an interim dividend of 3.5p (2.8p). Sir Nigel Mobbs, chairman, said prospects for the rest of 1988 were good. "The UK prop-erty market bas remained throng with continued demand

strong with continued demand for husiness space and

WITH THE announcement of

record half-year results, up 34.5

per cent on 1987, Erith dis-

closed that it is paying £8.87m for a private timber and build-

ers merchant thereby complet-

ing a ring of nine trading out-lets within the M25.

shares, £750,000 three-year loan

notes and £920,901 cash, it is

buying J.P. Walshe, which is

A 41.5 per cent advance in

pre-tax profits was achieved by

MacFarlane Group (Clansman),

the Glagsow-based holding

company with interests in

packaging, printing and distri-hution. For tha first half of

1988 profits were £3.28m,

The interim dividend is

increased from 1.252p to 1.75p with earnings per share rising from 4.8p to 6.61p after tax of

The consistent organic growth

which has been the feature of

In the first half of the year

this retailer of office and legal stationery, and printer and publisher of law forms, saw its

turnover grow 26 per cent to £6.23m (£4.92m) and pre-tax

the performance of Stat-Pins Group since flotation contin-

**By Liss Wood** 

against £2.32m.

Stat-Plus

continued

ued into 1988.

growth has

Against the issne of 2.5m

said. About 80 per cent of Slough's interests are linked to the industrial property market, which in recent months has been providing higher returns than office or retail property. Its latest figures show across

the board increases in operat-ing income. Investment income, largely the rents it receives from established properties, rose to £36.9m (£34.6m). Income from property trading, an area where Slough has become increasingly active, was np from £4.9m to £7.3m.

The presant development programme involves the con-struction of 650,000 sq ft of space at Slough and other cen-

based at Tooting and is strate-

gically placed between Erith's

existing depots at Greenwich and Staines.

Erith group turnover in the first half of 1988 rose 18 per cent to £40.42m (£34.24m), while the profit worked

through at £2.51m (£1.87m). In

lina with earnings rising nearly 35 per cent to 4.2p, the interim dividend is lifted 30 per

£1.15m, compared with £812,000. Turnover grew from £31.74m to £41.25m Sir Norman

MacFarlane, chairman - who also heads Guinness, the

drinks group - said that excel-lent results had been achieved in all four divisions and the

prospects for continuing growth was extremely encour-

He singled out the packaging division as the best performer

aging.

tres in sonth-east England. During the first half, 597,000 sq ft was completed. is moving into a rising market and with much of its financing at a fixed rate, including a Slough's major measure of domestic diversification has comestic diversification has been the purchase in 1986 of 52 per cent of Bredero Properties, the town centre retail devel-oper, whose figures were announced on Tuesday, Bred-ero contributed £1.8m to Slough's first-half operating income (£1m).

**COMMENT** Unless the Government slams on the economic brakes, the commercial climate is propi-tious for Slough, at least over the next few months. Its exten-sive development programme

cent to 1.3p. Mr Graham Davies, chair-man and managing director, said the programme of improvements to existing

branches and opening new ones on green field sites was making a positive contribution

Prospects for the future looked good, he said, and expressed confidence that

with nationwide distribution from 42 manufacturing and dis-

tribution outlets creating an

efficient organisation with improved margins. "I would bope to duplicate what we

to profits.

# at a fixed rate, including a £150m Euro-convertible issue last May, it has protection against rises in interest rates. The strength of demand, which The strength of demand, which has been pushing up industrial rents, especially in the south-east, should increase, both operating income and capital values. This suggests that the crucial net asset value figure, assuming it is not knocked by currency movements, should rise over the rest of this year to around 345p from 287p at the 1987 year-end. This would put the shares on a prospective dis-

the shares on a prospective dis-count of about 15 per cent, not abnormal for one of tha big property investment groups.

would be reflected in a signifi-cant increase in the year's

in 1987 Walshe achieved a pre-tax profit of £377,000 on

turnover of £7.9m, and in the first half of this year turned in

profit

£246,000.

eration placing.

#### buys cables minority from GEC By Bruce Jacques in Sydney

**BICC** arm

METAL MANUFACTURES, the Australian subsidiary of BICC, the UK cables and construc-tion group, has bought out the 36.8 per cent minority in its energy cables offshoot, Cable Makers Australia, for A\$70m

Makers Australia, for Asyon (£33.3m). The acquisition, from Britain's General Electric Company, will be followed by an immediate restructuring to form Australia's largest cables operation with an annual turn-Glenn Dudley, MM managing director, said yesterday. The deal will be funded with

a \$74m issue of 6.5 per cent a stand issue of out out out per cent preference shares convertible to ordinary on a one-for-one basis from March 1990. In a related development yesterday, BICC increased its interest in MM to about 63 per cent through the nurchase of a

cent through the purchase of a 7.4 per cent stake from CRA; this leaves the Australian resources group with 12.6 per cent of MM.

Of the shares being issued for the acquisition; 1.7m will be the subject of a vendor consid-BICC is huying the stake at about \$2.90 per share. THE \$1.2bn (\$710m) Piper Alpha oil rig explesion has triggered a charp rise in marine reinsurance premium rates which could benefit Steel Burrill Jones Group; the Lloyd's reinsurance broker. SBJ, a leading intermediary for so-called London market

for so-called London market, (LMX), nevertheless warned against expecting a dramatic improvement in its results as itimpact of the North Sea disas-ter were relatively cantions. It said the upward move-ment in prices will not have any significant impact on its figures until 1989, even if the

reported yesterday a 24 per cent slide in its half year pre-tax profits to £1.64m. The figures were still domi-nated by the adverse impact of ngures until 1988, even if, the increases were maintained. SBJ also has yet to benefit substantially from a diversifi-cation programme starting to gain pace since its acquisition this summer of Gravesend-based H. Stephenson, a non-marine insurance broker. It said the reason for the likely delay in the full impact reinsurance rate cutting prior to Piper Alpha and the weak-ness in 1987-8 of the US dollar, the currency for most marine reinsurance business. In the sir months to June 30, SBJ's turnover from broking

commissions fell 9.4 per cent to £4.21m, while other income was up marginally at £1.07m. Profits after tax and minorities

By Nick Bunker

off rig-related reinsurance poli-cias bought by London insur-ers will not come up for renewal until next year. SBJ's muted statement

Steel Burrill can see no

dramatic profit pick-up

were down 40, per cent at \$1.01m; Karnings per share dropped \$9 per cent to 5.7p. The group said it still expec-ted pre-tax profits for the full-year to be below the 1987 figure of \$4.48m. It is maintaining its interim dividend at 2.7p. In spite of the prospects for a hardening of prices in the marine reinsurance business. SBJ'a comments about the immact of the North Sea disasreflected current uncertainty at Lloyd's about whether or, not the big premium rate rises over the last six weeks were a

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over the last six weeks were a Incepert reaction In the aftermath of the July 6 explosion. SBJ's. brokers found that Lloyd's syndicates which wanted to top up their oil rig-related reinsurance cov-erage could face 200-300 per cent price increases. However, London brokers say it is not guaranteed that reinsurars will be able to main-tain these prices. One reason is that the direct marine insur-ance market in London is unwilling to pay more for its reinsurance protection at a reinsurance protection at a time when it was still facing stiff price competition for its own business from insurers overseas.

likely delay in the full impact of Piper Alpha was that most

# CLF shows 45% midway rise

For Business, acquired a year ago, and Concept Leasing France, which joined the group

came to 238.06m (£23.89m). and those larger transactions Earnings were 7.96p (6.12p) and written on a floating rate basis.

# Suter sells Avdel stake option

79011S8.

··· offer was at a level it could not:

Banner itself acquired a

#### By Nikki Tait

SHARES IN Avdel, the SHARES IN Avdel, the USM-quoted company formerly known as Newman Industries, jumped 6%p to 64p yesterday on news that the US-based Banner Industries had acquired an option over the 35m shares (27.56 per cent) built up by Suter, the indus-trial conglomerate run by Mr. David Abell. David Abell.

Banner, which is quoted on the New York Stock Exchange, has paid £3.5m for the option to acquire the Suter holding at 70p a share. This would cost it

Banner itself acquired a small interest of 250,900 in Avdel earlier this year, Trans-continental Services Group, a UK listed company in which-Banner has a 47 per cent inter-est (with voting rights, restricted to 29.9 per cent) and which in ture owne about 15 which in turn owas about 15. per cent of Banner, has also-sequired im shares. Together, the three interests would give Banner 28.54 per cent of Avdel. Mr Jeffrey Steiner, chairman

Aviel and has an engineerat fastenings business. Yesterday, however, Mr John Marley, Avdel's chief executive, said he regarded the two businesses as "very differ-ent in nature, serving different

ond quarter. Borland is laying off around

By Phillp Coggan

SHARES IN Borland advertising and marketing by \$500,000 to \$1m a month. International, US-based soft- costs more than doubled. The company has had a c ware company quoted on the USM, fell nearly 6 per cent yes-terday after the group revealed that restructuring costs would push it into the red in the sec-

90 of its 650-strong worldwide workforce and reorganising its sales and marketing depart-

**Borland shares fall on warning** 

The company has had a cheused record since it joined the USM in 1986 - its 19867, profits were lower than expec-ted, prompting a reorganisa-Borland said it would absorb most of the restructuring costs

in the current, second quarter - which ends September 30 tion of the group's research and would therefore expect to and development interests, Yesterday's 6p fall in the share price to 101p left it well short of the flotation value of 125p. incur a loss in the period. The objective of the restructuring was to decrease expenditures

have done in the packaging division in certain Europe countries," said Sir Norman. tries. John T Clarke, a husiness recently acquired by the mark-ing products division, had sub-Daniel Montgomery, the bottle closures company, was benefitting from long term con-tracts for pilfer-resistant bottle stantial export potential to Europe, said Sir Norman.

#### **First half** setback for **American Trust** closures and a recovery in orders from the whisky indus-The net asset value of American Trust stood at 152.8p per share at the end of try. A C W, which manufac-tures plastic moulding prod-ncts, had been particularly successful in its sales to the tolletries and detergent indus-July, up from the 142.1p pre-vailing at the company's finan-cial year end in January, but 27 per cent lower than the stated figure in July 1987. Net revenue of tha group,

Managers, the 53.8 per cent-owned subsidiary, fell 11 per cent to £2.64m (£2.96m) in the six months to July 31. Karnings per share for the

parent company improved slightly to 1.87p (1.77p), although those for the group as a whole declined from 2.49p to 2.83p. The interim dividend is

lifted to 1.25p (1.15p). As foreshadowed in the chairman's annual statement,

the effects of continuing lower unit trust activity contributed to reduced taxable profits at Edinburgh Fund Managers in the half year to end-July. On turnover of £3.44m

(£4.18m), the pre-tax outcome was 23 per cent down at worked through at 10.2p (13.5p), and the interim divi-dend is maintained at 4p. The directors said that although reduced earnings for the full year were likely, the company had a relatively low and well-controlled overhead base and a strong balance sheet. Compensation for loss of contract, amounting to £1.24m, net of corporation tax, was taken below the line as an extraordinary credit.

THE EXPANDED vehicle and in March Comparisons for 1987 the interim dividend is 0.730-equipment leasing group, CLF Have been adjusted to reflect (0.580). The chairman suid the Holdings, pushed up its protax. TFB on a merger basis. Inew \$155m multiple. Least profit from £161m to £234m in Mr Barnes said Concept option facility and proceeds the first half of 1988. Arrest achieved a strong increase in Mr Tony Barnes, chairman, new business levels, while TFB expressed confidence in the also lifted profits but at a future, despite the volatility of the money market, and here une of new husiness in the UK Over half of current borrow-pected continned progress in leasing operations rose 92 per ings were at fixed rates the second half.

the second half. Results included Technology

that strong growth. Turnover in the first half vertible at 8.33 per cent gross.

The option interest is described as a "strategic investment", and an "opportu-nity to investigate areas of mntually beneficial co-opera-371175 tion" between the two compa-nies. Banner, which supplies mechanical components and aircraft parts, has interests in speciality fasteners, particu-larly in the aerospace industry. Avdel also has an engineered

although-there had been one.

profit 35 per cent to £2.37m (£1.75m). And in the opening two

months of the current half trading fulfilled expectations, said Mr Derek Bird, the chair-man. The group had cash

deposits of nearly 57m. Earnings in the period moved up to 7.1p (5.1p) and the interim dividend is 1.25p (0.75p).

Henricks. After producing better-thanexpected profits of \$7.7m (£4.6m) last year, Borland recently reported a downturn in first quarter profits from \$2.87m to \$794,000. Turnover grew by 77 per cent but sales,

#### Godwin Warren in receivership

GILT EDGED GIFTS FROM THE

#### By Flona Thompson

Godwin Warren Control Sustems, manufacturer of com-puterised automatic car parking systems, railway and mining huffers and level crossing equipment, has gone into receivership. The Royal Bank of Scotland yesterday appointed Arthur Young, Birmingham chartered accoun-

FINANCIAL TIMES

tant, as receiver. Godwin directors had been negotiating for a major acquisition which was intended to secure the company's financial position, a statement said yesterday. But these talks failed and the group's position forced the directors to seek receivership.

ments. "We were building for tomorrow but we had to bring our costs in line with today" Microfilm to fund £11m said finance director Mr Alan US buy with rights issue **By Clare Pearson** 

MICROFILM Reprographics, digitisation: the conversion of the microfilming bureau, yes-terday announced a two-for-11 into a compressed digital form. terday announced a two-for-11 rights issue to fund the \$18.6m (£11m) acquisition of Georgia-based company CMC, its first US purchase. for storage on magnetic tape or optical disc.

Microfilm intends to raise £11.9m through a rights issue of 3.57m ordinary shares at 350p each. These will not be eligible for the final dividend. The UK group also estimated pre-tax profits for the year to June 30 of £4m and earnings

per share of 13.6p. In both CMC made pre-tax profits of cases, this represents an increase of a third over 1987 levels. Tha final dividend is 2.25p, making 3.375p for the year, a 50 per cent increase. \$1.3m on turnover of \$11.8m in 1987. Interim pre-tax profits were 62 per cent np on the comparable period last year.

At the interim stage, Mr Red-mond said the costs of develop-ing scanning and digitisation techniques had held hack Like Microfilm Reprograph-ics, CMC has moved into the newer information storage techniques of scanning and

TMD picks up £20m of

**Overheads** halve Davies to £0.52m

As foreshadowed in January's interim statement, full-year profits at D Y Davies, USM-quoted architectural practice, snffered from increased overheads due to delays on two major projects

delays on two major projects in London. In the 12 months to end-April, pre-tax profits halved to £517,000 (£1.94m), although turnover declined by a modest 8 per cent to £7.52m (£8.15m). Earnings per 5p share dipped to 5.5p, against 12.7p last time, hut the final divi-dend is held at 3p for a same-again total of 4p. An extraordinary charge of £73,000 related to abortive acquisition costs. billings with Yershon buy of the rankings to the end of June compiled by Media

# June compiled by Media Expenditure Analysis (MEAL). The initial payment of fl.4m to the vendors of Yershon is being satisfied by the issue of 853,659 new TMD ordinary shares, worth 164p each. Of these, 512,196 are being placed, with clawback provisions for **Eglinton profits** jump to I£0.2m

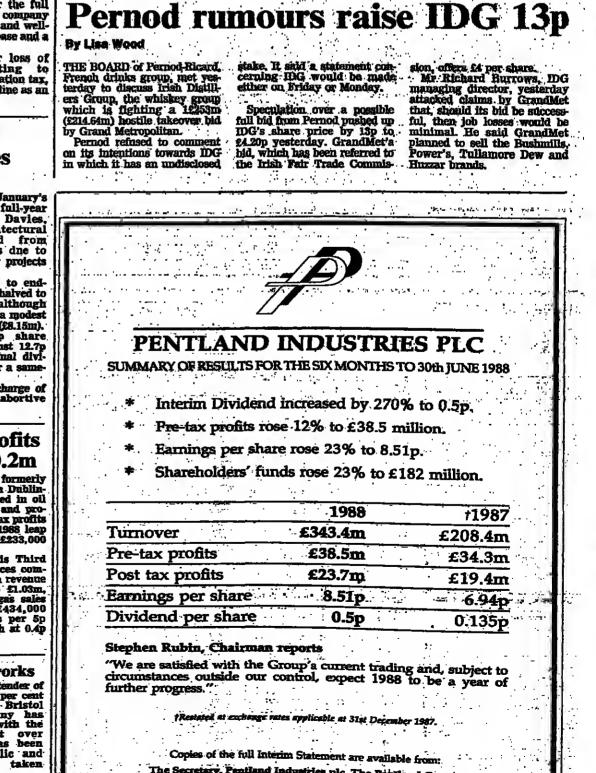
these, 512,195 are being placed, with clawback provisions for existing TMD shareholders, along with a further \$200,000 worth of new shares The deferred consideration, up to a maximum of \$3.1m, is based on after-tax profits for the three means to August 1001 the three years to Angust 1991. Yershon made pre-tax profits of 2206,000 in the year to March

JUMP TO 12.V.2M Relinton Exploration, formerly Eglinton Oil & Gas, a Dublin-based concern involved in oil and gas exploration and pro-duction, saw its pre-tax profits for the first half of 1988 leap from 1£19,000 to 1£233,000 (£197,000). The result for this Third Market-listed resources com-pany was achieved on revenue up from £237,000 to 51.03m, with gross oil and gas sales increasing to £434,000 (£237,000). Barnings per 5p share worked through st 0.4p (0.05p). (0.0Sp).

**Bristol Waterworks** Tha offer for sale by tender of The offer for sale by tender of up to £1.846m of 4.9 per cent ordinary stock in Bristol Waterworks Company has been partially left with the underwriters. Just over £1.41m of stock has been alloted to the public and underwriters have taken £357,226-worth. Segment Pierce Butterfield sor, zze-warta. Seymour Pierce Butterfield, brokers to the issue, suggested that it had been affected by interest rate developments and the general market slide.

And sense, and sense, and sense, and the said that informations were and the said that by Banner, and felt that the "wholly friendly".

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The Secretary, Pentland Industries plc, The Pentland Centre, Lakeside, Finchley London N3 2QL 

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Initial Stated Amount of the Citicertificates, or US\$961.39 per individual

Citicertificate until 1st December, 1968.

CITICORP CMORTGAGE SECURITIES, IN

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CORP GMORTGAGE SECURITIES, INC.	MONTHLY AV	ERAGES	OF	STOCK	INDICES
		Aug.	Jul.	Jun.	May
REMIC Pass-Through Certificates, Series 1987-13 US\$57,057,000 Initial Stated Assount of Class A-1 Citicertificates a period 1st September, 1988 to 1st December, 1988 the Class A-1 tificates will carry an interest rate of 9.4375% per annum with an at amount of US\$22.68 per US\$1,000 (the Initial Stated Amount of widual Citicertificate) payable on 1st December, 1988, The Stated and of the Citicertificates outstanding will be 96.13885088% of the	Financial Times Government Securities Fixed Interest Ordinary Gold Mines SEAC Bargains (5 p.m.) F.TActuaries Industrial Group 500 Barse Financial Group	87.76 97.43 1474.3 195.1 23,171 874.10 1044.04 988.30 854.38	57,84 97.96 1458.9 215,4 25,430 951:83 1054.34 711.38 965.15	98.10 1470.0 220.5	88.99 97.99 1427.4 203.9 25.023 936.12 1009.62 673.38 920.66
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National Bank, London 1st September 1988	Ordinary	1S14,7 (8 978.58 (8			9.4 (31st) 07 (30th)

**REMIC Pass-Through Certificates, Series 1987-13** US\$57,057,000 Initial Stated Amount of For the period 1st September, 1988 to 1st December, 1988 the Class A-Citicertificates will carry an interest rate of 9.4375% per annum with an Interest amount of US\$22.68 per US\$1.000 (the Initial Stated Amount of an individual Citicertificate) payable on 1st December, 1988. The Stated Amount of the Citicertificates outstanding will be 96.13885088% of the

By Clare Pearson

of £4.5m.

years.

TMD ADVERTISING Holdings,

USM-quoted specialist agency, is buying fellow independent

media bnyer Yershon Group for a maximum consideration

TMD, the only independent company in the sector with a stock exchange quote, has declared its aim to be one of the UK's top three independent

space-buyers within a couple of

The purchase of Yershon, which will add £20m-worth of

billings, means that TMD will

move up from tenth to seventh position in the closely-watched league table of biggest media

spenders. This is on the basis

FT-SE 100 .... 1876.0 (8th) 1753.6 (31st)

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### CURRENCIES, MONEY AND CAPITAL MARKETS

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#### FOREIGN EXCHANGES

2

# Rate differentials hit yen

feature in a foreign enchange market lacking major eco-nomic news yesterday. The dol-lar's undertone was firm, with Europe doing little more than continuing a trend seen on Tuesday in New York and then in the Far Bast. The yen weakened initially against the US currency on a news report that the Japanese Finance Ministry Intends to set

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Finance Ministry Intends to set a tax of 26 p.c. on certain stock. exchange transactions. Buf dealers said there was nothing new in this suggestion, and it was really just an excise to buy the dollar. The yen also looks vulnera-

The yen also looss vulnera-ble to speculative selling because of relatively low Japa-nese interest rates, according to dealers. This factor was reinforced

when The Bank of Japan said it regards recent moves in the



STERLING INDEX

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CURRENCY RATES

Bank Special ente Drawing % Rights

0.767537 1.29307 1.60147 1.60147 1.70194 50.7207 2.41998 2.273032 4.1998 8.2099 1.797,69 1.73789 0.92511 1.60.628 8.325840 2.04046 1.95.538 0.903402

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Aug. 32

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"All SDR rates are for Are 30

CURRENCY MOVEMENTS

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Changes 7

rose from Y134.85 at Tuesday's New York close, to Y134.55 at the finish of trading yesterday in Tokyo, and to Y136.50 at last night's London close, com-pared with Y134.40 on Tuesday. The D-Mark also moved steadily higher against the yen, closing at Y72.70 last night in London, compared with 72.20 in Tokyo, and 72.00 on Tuesday in London. At the London close the dol-lar had advanced to DML8775

Belgian Franc Daulch Krone Gromen D-Mark Pranch Franc Insch Golder Irish Pant Italian Lira

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but the currency remains vulnerable It has already been suggested that bank and build-ing society lending (M4) in

lar had advanced to DML8775 from DML8665; to SFrL5850 from SFrL5760; and to FFr63775 from FFr63250 August may enceed July's fig-ure of 19hn, and that the trade balance is unlikely to show On Bank of England figures, the dollar's exchange rate index rose to 100.2 from 99.6. Sterling was volatile, within a narrow range, with London's any dramatic improvement. The pound fell 65 points to \$1.6840, but rose to DM3.1625 financial market's keeping a form DM8.1550; to Y229.75 from close watch on the currency. The pound opened weaker in Y227.25; to SFr2.67 from SFr2.6650. London, against a firm dollar, but was slightly stronger Sterling's exchange rate index closed unchanged at 75.8.

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DOLLAR SPOT- FORWARD AGAINST THE DOLLAR

1.60%-1.69% 0.53-0.52% 1.25%-1.69% 0.55-0.52% 1.25%-1.2400 0.16-0.25% 2.1200-2.1219 0.55-0.55% 2.1200-2.1219 0.55-0.55% 39.38-39.40 6-45% 1.57%-1.07% 0.56-0.55% 1.54% 1.54% 0.55-0.55% 1.54% 1.54% 0.55-0.55% 1.54% 1.55% 2.25-1.25% 0.56-0.32% 0.56-0.32% 0.56-0.32% 0.55-0.55% 0.46-0.37% 0.55-0.55% 0.46-0.37% 0.55-0.55% 0.46-0.37% 0.55-0.55% 0.46-0.37%
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EURO-CURRENCY INTEREST RATES

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Day's

Mag 31. 411 Sect.

ENS EUROPEAN CURRENCY UNIT RATES

POUND SPOT- FORWARD AGAINST THE POUND

· One months

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5.60-1.900rrpm Ja-Loredis 15-11/cpm 2-13-arcpm 1-2-13-arcpm 1-2-13-arcpm

2120

One month

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Sbr.

Montini

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% chean from central rate

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Three

1.53-1.40m -1.11-0.77pm 53-53-55 55-77pm 124-111-5 1.30-1.20m 54-55-5

8.30-4.20pm 214-314-60 314-314-60 314-314-60 314-314-60 41-40

51-54pm

terrer 12 mart 2.58-2 Steam 12 mart

Three months

153-140pm 4.44-0.50th 4.44-0.50th 4.44-0.50th 4.44-0.53th 15-11.25pm 15-112pm 4.65-0.25pm 130-405pm 30-65pm 270-240th 1254-25pm 154-65pm 1254-25pm 154-25pm 154-25pm

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Sep

Sep

A WEAKER yen was the main the D Mark. The US currency against the D Mark. As sterling feature in a foreign enchange rose from Y134.85 at Tuesday's weakened later in the morning US TREASURY bonds were marked up in Liffe trading yesgilts and equities began to terday, underpinned by a slide. Interest rates were slightly firmer where changed, against a background of con-

stronger dollar - notably against the Japanese yen. Values were boosted after reports that the Bank of Japan tinued nervousness about Britain's trade position. There was no fresh news to had no plans to increase its discount rate. Most major European banks increased move sterling, and the pound finished firmer on the day against the D-Mark and yen, their key lending rates last week

PHILABELPHIA SZ (/S OPTIMIS S12,368 (senis per £1)

 Strike
 Calls

 Price
 Sep
 Oct
 How

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 1600
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LEFTE LANG GELT FUTURES APTICALS

LIFFE £/5 OFTENES E25,000 Louis per £1)

Sep

LONDON GLIFFED

A-TEAR 9% MOTOMAL CELT

Estimated Volume 37532 (30888) Previous day's costs lat, 40345 (41516)

7-10 YEAR 9% MOTIONAL CELT \$58,000 32mb af 100%

Estimated Volume 0 ft) Previous day's open int, 118 (118)

Estimated Volume 1064 (205) Previous day's open Int, 866 (205)

4% NOTIONAL LONG TERM JAPANESE SIVT. BINN VINIM 25456 of 200%

Clest High 101.70 102.10 99.35 99.95

Est. Vol. Onc. figs. not showed 19892 (17971) Previous day's open int, 47051, (47075)

Estimated Volume 2754 (2460) Previous day's open let. 11782 (11040)

THREE MONTH EUROADLAR

FT-SE JAN BRDEX S25 per fail lades point

Close High Low 87.76 87.63 87.74 87.92 87.96 87.87 88.37 88.38 88.32 86.63 88.64 88.57

Cost High Law Prv. 175.10 176.40 175.00 175.00 177.00 178.10 177.10 176.95

1310 1310 810 810 344 418 54 177 9 58 0 14

Estimated volume total, Carlis 0 Pass 0 Previous day's open int, Carlis, 752 Parts 1767

14515131312C13

Previous day's open lat: Calls 594,236 Puts 480,666 Previous day's volveue: Calls 16,599 Puts 14,878

Estimated volume total, Calls 1850 Pots 9098 Previous day's open ML, Calls 18545 Pots 17132

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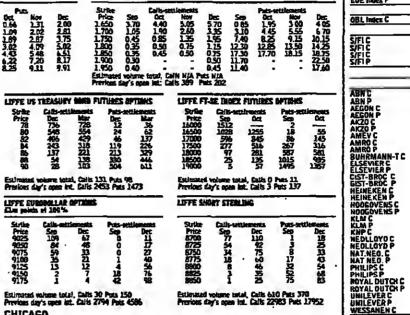
**FINANCIAL FUTURES** 

**US bond prices firmer** However trading volume in the September contract was barely over the 10,000 level, as many institutions held back ahead of tomorrow's release of US employment data. UK long gilt futures were

generally lower, reflecting sterling's underlying weakness. The softer tone in the September price was exaggerated by a switch into the December con-

tract Three-month starling depos-its acted in much the same way. An early premium in the September price over the cash equivalent was gradually eroded, as short term investors saw little point in taking bull positions at the moment. The December price drifted away from an opening level of 87.96,

the same as Tuesday's close,



5013017XXX NK&SCINES 8-11284948 13020280

Estimated volume total, Cells 610 Pats 370 Provides day's open Int. Calls 22983 Pats 17952 Estimated volume total, Calls 30 Pors 150 Previous day's open let. Calls 2794 Pois 4586

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191	-	-	-	82-05 81-24 81-12	DEUTISCH DULIZS, D	E MARK COM	0		
6			•	81-01	Sep Dec Mar	0.5113 0.5375 0.5425	85340 0.5383 0.5427	0.5332 0.5374 0.5417	0.5363 0.5406 0.5449
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Latest High 263,70 244,30 266,20 266,80 268,80 264,35 271,30 271,70

Law Pres. 263.70 262.70 266.20 265.20 267.70 269.70

**BASE LENDING RATES** City Merchants Bank ..... Christale Bank Alfied Arab Bk .... Co-operative Bank \_\_\_\_\_ Courts & Co Cyprus Popular Bit Dunbar Bank PLC d Irish Bank .. ciates Cap Corp ..... ority Bank ...... C Merchant Bank .... Duncar Lawne Equatorial Bank plc Exeter Trost Ltd Financial & Gen, Bank First National Bank Plc de Bilhao Bank Happalim ..... Lates 91.35 90.88 90.71 90.58 90.48 90.44 90.37 Law 91.35 90.82 90.88 90.71 90.58 90.48 90.44 90.44 90.37 Bank Lengi (UIO ...... High 91,37 90,91 90,34 90,51 90,51 90,51 90,51 90,51 90,51 Pres. 91.30 90.77 90.83 90.64 90.53 90.38 90.38 90.38 Bank Cretit & Comm \_\_\_\_\_ Bank of Lyons \_\_\_\_\_\_ Bank of Iveland \_\_\_\_\_\_ Bank of Iudia \_\_\_\_\_\_ Bank of Scotland \_\_\_\_\_\_ HFC Bank plc .... Banque Beige Ltd...... Barclays Bank Benchmark Bank PLC... Hambros Bank. Heritable & Gen Im Bk ... Hill Samet ... £12 Hail Samer C. Hoare & Co. Hongkong & Shangh Leopold Joseph & Sons., Lloyds Bank Meghraj Bank Ltd Midland Bank Mord Baks Cara. Berliner Bank AG STANDARD & POORS 500 THENEX. \$500 times index

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**NatWestminster** 

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A = Ask

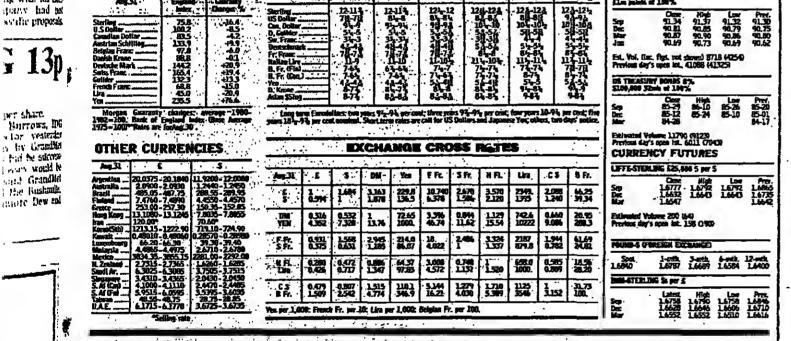
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# MONEY MARKETS UK rates steady

INTEREST RATES in London were little changed on the last day of the month Some activity was seen in the three and six month interbank, which saw rates edge up a sinteenth of a point on roll-over activity, but there was nothing in the

out there was nothing in the way of fresh economic news to influence trading. Three-month interbank fin-ished at 12%-12% p.c. from-12%-12% p.c. Overnight money-touched a high of 18% p.c. soon after lunch but finished nearer

11 p.c. The Bank of England forecast a shortage of around 1800m, with factors affecting the market including repay-

UK sharing bank been lending rain 12 per civil from August 25 & 25

ment of late assistance and ment of late assistance and bills maturing in official hands together with a take up of Treasury bills draining 2659m, and a rise in the note circulation of £25m. In addi-tion, banks brought forward balances fidten balant terrort

sand £198m of eligible bank bills, all at 11<sup>1</sup>/<sub>11</sub> p.c. A further revision took the forecast back to a shortage of £900m. The authorities pro-vided additional assistance in the afternoon of £194m through

the afternoon of £194m through purchases in band 1 of £23m of local authority bills, and £77m. of eligible bank bills at 11% p.c., and in band 2 £8m of eligi-ble bank bills at 11% p.c. Band 4 purchases comprised £26m. of eligible bank bills at 11% p.c. Late help, came to £265m, making a total of £790m.

Interest rates in Frankfurt showed a mired response to the Bundesbank's latest sale

and repurchase tender. The Benk invited uffers for 28 day funds at a fixed rate of 4.25 p.c. and also introduced a variable rate tender over two months.

banks will pay for allocations at whatever rate they bid, as opposed to a blanket minimum accepted rate.

of Treasury bills uraning 2653m, and a rise in the note circulation of £25m. In addi-balances £145m below target: These were partly offset by-Exchequer transactions which added £45m. The Bank revised its forecast to a shortage of around £750m, and gave assistance in the morning of £231m. This com-prised outright purchases of £32m if alighle bank bills in band 1 at 11% p.c., and in band 4, film of local authority bill-

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Md 84 offer 8. The fixing rates are the articlemetic minum rounded to the accrest one-statemath, of the bid and offered rates for SLIOm quoted by the market to the resonance builts at 11.00 a.m. each working day. The basis are Rational Westmanster Bund, Bank of Todyn, Dustache Stank, Sampe National de Paris and Morgan Golgandy Trass. . 15

(11.00 a.m. Ary SU) " 3 methic US dellars

Under the new system of variable rate tender, commercial

MONEY RATES \*\*\*\* NEW YORK Treasury Bills and Bonds Turse year. Foor year Five year Serin year 10-year 30-year (Lunchtime) One month Two those Turse was Six month 729754 10 94-4 84 Prime raie . Fad finals at intervention Two Months Any 31 Oversight. Cee Month Tarte Sir Notices 5.75425 715779 13918 54,559 34075 10-10 10-10 7.15 7.15 7.74 515-525 74-73 72-74 5255.40 745.74 745.74 555-5.70 84-44 湖 197-113 71-7 72-84 84.84 12000 LONDON MONEY RATES One Year Aug.31 Nombs 
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FT LONDON INTERBANK FIXING

6 months US Doltars

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Tressary Bills (Bug) Bank Bills (Bug) Fine Trade Bills (Bug) Dollar CDs SDR Linked Dep Bil ECU Linked Dep Bil ECU Linked Dep Bil Treatury Ollis (polity one-month 11% per cent; three months 11% per cent; Bank Bills (polity one-month 11% per cent; three months 11% per cent; Bank Bills (polity Average tender rate of efforourn 11.4 606 p.c. ECED Flave Rate Sterling Export Flavers. Make un day July 29, 1988. Agreed rate for period Aggent 26,1968 to September 25, 1968. Schwer I: 11.49 p.c., Schwer IV&V. 10.513 p.c. Local Authority and Finance Houses series day notice, others seven days fitted. Finance Houses Same Rate 10 from August 1, 1968 to July 29, 1968, Schwer IV&V. 10.513 p.c. Local Authority and Finance Houses series day Denoxit file 0,000 and over hed socier new month 74 per cent; one-shree months 9 per cent; Under Six throng 9 per cent; six-nite months 9% per cent; man-tweine months 9 per cent; Under £100,000 7 per cent, from Jely 5,1988 Deposities withdraws the Cent Sper cent.

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### **Maxwell Communication Corporation plc Oxford**, England

### ECU 75,000,000 8<sup>3</sup>% Bearer Bonds of 1988/1993

**Issue Price** 100½%

**Bayerische Vereinsbank** Aktiengesellschaft

#### Crédit Lyonnais

**Banque Bruxelles Lambert S.A.** 

**Dresdner Bank** Aktiengesellschaft

Istituto Bancario San Paolo di Torino **Kredietbank International Group** 

Arab Banking Corporation - Bankers Trust International Generale Bank Daus & Co. GmbH

Goldman Sachs International Corp. The Long-Term Credit Bank of Japan (Europe) S.A.

New Japan Securities Europe The Nikko Securities Co., Swiss Volksbank (Europe) Ltd.

Vereins- und Westbank Aktiengesellschaft

Wirtschafts- und Privatbank

This announcement appears as a matter of record only. The Bonds have not been registered for offer or sale in the United States of America and may not be offered or sold in the United States of America or to nationals or residents thereof or to other U.S. persons.

#### FT UNIT TRUST INFORMATION SERVICE

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7 There's nothing big in the French male, so relax (5)
8 Carry on about a way loss can be made (7)
11 In a woman it appears to succeed (7)
14 Parsees dealt with abuse (7)
17 Game graduate fellow about to make a lot of money (9)
18 Left Her Majesty without anything for amusement (8)
19 Picture furniture embellished with gold (7)
21 Fisherman need to get right into corners (7)
22 Ironic humour at being ACROSS Restances Final Managers (12001) Stillsone C., Thinkern S., Livernol. 051 227 2030 init Group harmonic Still (166 44.55) - Chill 33 Reck Asset Mand (Unit Trass) 144 (1902) Part Vier Home, Fron Same, Boring (1901) 21 (1902) Part Vier Home, Fron Same, Boring (1901) 21 (1902) Exempt Hanaged ... 9 (7) (17, 9) (50,94) - 252,45 Hat Managed ... 9 (7) (17, 9) (50,94) - 252,45 Hat Managed ... 9 (7) (17, 9) (1902) 1 Press a switch and get thin! De U Sector Januaritist F Commonity Stapes ... Reported Sectoria Accuse Livits ...... Property Shares ... Universal Energy ... Ward Lebaology ... Wards Lebaology ... Descenas General Fr Press a switch and get thin!
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20 Fancy a little hidesway (4)
23 Key-rings for guides (6)
25 Like speaking, though it's testing (8)
27 Expulsion for getting into vice maybe (8) GUIDE TO UNIT TRUST PRICING San Alliance Unit Tat Manuet Ltd (1200)F 22 Ironic humour at being The data included ander the Anthonised section of the FT Unit Trust Infor-being expanded to legenove the service to readers and 10 bouform with an INUTIAL CHARGES These represent the marketing, administrative and other costs which have to purchasers. These charges are included in the price whet the customer buy tion pages is emistation. 22 Fronc humour at being received by father (6)
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28 Short story about abstemious sovereign (6)
29 On the carpet? No, quite the reverse! (8)
30 Turning evil, trap game (6)
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1 Arab or oriental coppers holding a vehicle up (7)
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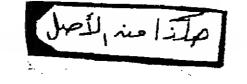
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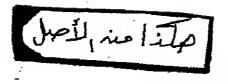
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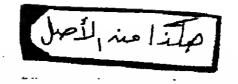
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### FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

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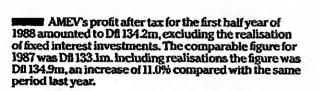
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& SUB-SECTIONS Figures in parentheses show number of			Est. Eamings	Gross Div.	Est. P/E Ratio (Net)	मह अवी.				1	-	Brk. 6 Comm.         220         14         25         9         11         14         Pilldegion         130         13         24         7         11         12           ("224)         340         5         9         11         14         25         26         ("224)         10         14         22         24         25           -         500         2         5         8         40         42         42         10         14         22         24         25           -         500         2         5         8         40         42         42         10         14         22         24         25           -         500         2         5         8         40         42         42         10         14         22         24         25           -         500         2         5         8         40         42         42         10         14         22         24         25           -         500         2         5         8         40         42         42         10         13         14         5         6         6
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1 CAPITAL GOODS (210)	. 759.3 961.6	6{ +1_0	10.67 11.90	4.43	11.62 10.32	17.16 21.41	952.54	771.61 973.98	995.5	1 2298.46		Bass         750         32         42         57         16         33         37         Protestial         150         10         14         19         9         13         14           (*751.)         800         10         20         33         30         63         65         (*154.)         140         10         14         19         9         13         14           (*751.)         850         2         7         -         100         105         -         12         24         26         20           850         2         7         -         100         105         -         -         4         -         -
4 Electricals (12)	1509.3 2081.7 1660.5	2 +0.5	11.11 9,60 18,43	4.83	11.74 13.67 12.32	49.65	1584.82 2070.37	2095.48	2187 8	1785.21 2452.18 1992.95		Cable & Wint         530         45         33         42         4         10         13         Racal         200         35           12         17         22           (*365)         340         223         33         42         11         20         23         (*304)         300         23         35         42         12         17         22           (*365)         340         223         33         42         11         20         23         (*304)         330         10         22         20         35         40           390         10         17         25         32         38         42         10         10         27         7         14         18
6 Mechanical Engineering (57) Bi Metals and Metal Forming (7)	401.3	5 +8.4 8 -8.5	18.28 10.47	4.35	12.96	9.23 7.95	399.68 452.92	498.07 465.52	412.8	2 517.84 563.87		Cons. End4         950         67         110         155         40         34         46         81.2         300         30         47         60         17         18         12           (*90.)         1000         42         20         102         125         126         126         126         13         30         47         60         17         12         13         30         47         60         17         12 <td< td=""></td<>
10 Other Industrial Materials (23)	264.4 1239.9 1035.2	31 <u>-</u> 8.4 i	12.30 9.48 9.55	4.98 4.62 3.83	9.38 12.62 13.24	6.62 28.49 19.26	1244.51	1266.88	1282.98	382.80 3629.03 1294.25	Base         James         1988         Sent         Classes         -         Set         Tames         Gast         PE           Price         rg         date         High         Lune         Sent         Classes         -         Dir.         Classes         PE           41.45         F.P.	Constraints         200         23         32         40         5         12         14         Vasil Reefs         70         7         11         13         44z         3         9           (*311)         330         U         16         25         24         22         30         (*572)         90         3         64z         61         12         14         17           (*311)         330         U         16         25         24         25         53         Option         Step         Dec.         Mar         Step         Dec.         Mar
22 Brewers and Distillers (21)	1071.5 935.3 1897.9	5 +0.2	18.90 9.27	3.80 3.96	11.54 13.80 14.47	20.84 17.95 38.49	1069.21 935.77 1907.42	1083.01 946.22	1093.40 950.31	1156.43	4145         F.P.         -         173         145         Christle Group 2p         146         -2         113         31         28         152           475         F.P.         169         83         76         Outcontatter 10p         76         -1         R213         20         20         332         20         332         26         213         31         28         152         31         20         20         332         31         20         20         332         251         33         152         31         25         31         150         152         31         25         31         150         152         151         126         161         337         255         31         150         151         127         151         126         161         337         255         31         150         151         127         151         127         151         127         151         127         131         132         132         132         132         132         132         132         132         132         132         132         132         132         132         132         132         132         132         132	Com. Union         300         48         55          /1         .5          /1         .5          /1         .1
27 Health and Household (12)	1778.8	4 +0.1 ( 6 +0.2	9.12 7.81 9.56	3.95	16.57 13.41	18.81	1777.65	1784.23	1787.49	2474.69	4146         F.P.         173         145         Cartale Group 2p.         166         -2         115         31         28         152           975         F.P.         169         83         76         Outcontater 10p.         76         -1         RL13         20         20         33.2         8         120         33.1         28         15.2         97.5         F.P.         -108         86         Encours 5p.         98         RL13         20         20         33.2         12         13.5         12.5         13.1         20         20         33.2         13.5         12         13.5         14.5         12.5         13.1         2.6         13.2         13.2         13.5         13.2         13.5         14.5         12.5         13.1         15.0         15.7         0.5         15.7         0.7         9.6         13.2         14.5         13.7         2.5         3.1         15.0         15.7         14.5         14.6         13.7         2.5         3.1         15.0         15.7         0.7         9.6         13.7         2.5         3.1         15.0         15.7         0.7         9.6         13.7         2.5         3.1         15.0	GEEC.         Mail         Mail <t< td=""></t<>
31 Packaging & Paper (17) 32 Publishing & Printing (18) 34 Stores (34)	488.7 3326.1 745.2	9  +0.5	18.66 8.59 12.14	4.69	12.75 14.62 11.89	9.98 73.53 15.08	3311.19	599.15 3387.42 769.66	3444.4	679.35 4586.49 1856.01	1975         F.P.         226         133         152           1         F.P.         226         166         182         Horat Stopp 100         161         37         225         31         152           1         F.P.         226         166         128         Horat Stopp 100         161         37         225         31         152           120         F.P.         151         122         Horat Stopp 100         161         37         225         31         152           120         F.P.         151         122         Horat Stopp 100         161         17         161         01         162         141         120         141         120         164         162         142         140         152         121         164         162         141         162         162         162         162         162         162         162         153         162         162         163         162         162         163         162         162         163         162         162         163         162         163         163         163         163         163         163         163         163         163         177	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
35 Textiles (16)	548.6 865.3	1 +0.5	11.14 12.60 11.51	4.55	9.31 19.62	12.65 19.92	545.99 864.97	562.01 871.85	566.06 875.14	\$05.77 1123.25	star         FP         Z77         Jái         Construction         Jái         Construction         Jái         Jái <thjái< th=""> <thjái< th=""> <thjái< th=""></thjái<></thjái<></thjái<>	Grand Mer.         460         45         62         46         5         10         15         Grand State         20         25         5         11         13           (*494)         500         17         32         46         5         10         15         Grand State         5         5         11         13           (*494)         500         37         14         19         46         40         12         26         38         18         27         30           500         37         14         19         46         40         12         26         38         18         27         30
42 Chemicals (21)	1055.0 1021.5 1166.2	7 49.2	8.59 12.50 10.94	4.97	14.71 9.60 10.55	22.91	1055.65 1019.25 1159.68	1022.43	1023,73	1686.45 1458.58 1437.21	- F.P 23 14 Waverky Minley Warrants 23	i.C.l.         950         75         103          9         20          460         2%         11         25         56         32         35           (*1001)         1000         40         75         83         28         32         55         160         5         16         16         11         13         15           11000         7         28         38         105         117         (*153)         100         2         6         10         30         31         51
45 Shipping and Transport (12) 47 Telephone Networks (2)	1854,0 918.6	7 -0.3	11.63 12.09 11.45	4.85	11.39 18.73	34.38 20.38 21.64	1859.62 928.72	1880.27 925.97	1899.97	2245.70 1066.35		James         240         13         21         25         13         11         20           100000         200         5         4         47         51         51           100000         200         55         13         17         200         55         4         47         51         51           10000         552         13         11         25         20         25         6         850         107         120         -2         16         -2         16         -2         16         -2         40         -2
49 INDUSTRIAL GROUP (488)	929.1 1703.9	2	10.39	4.14	11.98	19.41	928.92	941.80	958.61	1640.48	FIXED INTEREST STOCKS	Land Securities         500         35         72         84         93         84         13         950         28         53         82         27         52         62           Land Securities         500         25         77         84         9         25         27         Harder Side.         460         58         63         75         2         6         9           -         600         5         16         26         55         57         60         600         23         33         52         18         22         20           -         600         5         16         26         55         57         60         600         23         33         52         18         22         20
59 500 SHARE INDEX (500)	994.9 667.5	5	10.48	4.44	11.92	64.62 23.20			1016.33	2227.11	lame Amazant Latest 1988 Stock Price Paid Researc 1988 Stock Price + or £ up Date High Low	Harts & Spencer         160         5         10         26         55         57         60         130         27         46         52         58           Marks & Spencer         160         5%         11         14         9         11         12         550         5         13         27         46         52         58           (155)         130         1         4         7         28         28         41/1540em         260         15         25         32         5         -9         12           (155)         130         1         14         -9         47
62 Banks (8)	639.7	1 +0.2	22.38	5.23 6.82 5.05	5.99	18.46 25.83 24.97	638.21 1003.75	637.92 1819.77	542.87 1014.17	812.31	b         F.F.         950         939         Missin Group 5, 25p Dr. Mil. Pf. 10p         930           1000         F.F.         -         115p         110p         Boorded Laminatics & Ove M Pf. 10p         110p         -         100p         -         100p </td <td>Behall (201</td>	Behall (201
66 Insurance (Composite) (7) 67 Insurance (Brokers) (7)	520.4 941.7 335.5	5 +0.7	18.23	5.94 6.76 4.27	32.63	15.67 31.74 7.68	521.70 935.14 335.28	526.38 951.90 341.09	525.70 956.94 344.76	1249.96	•         F.P.         -         95p         Alizon Group 5.25p Dr. Bil. Pf. 10p         93p         Alizon Group 5.25p Dr. Bil. Pf. 10p         93p         -         93p         -         93p         Alizon Group 5.25p Dr. Bil. Pf. 10p         93p         -         93p         110p         Fill         93p         Alizon Group 5.25p Dr. Bil. Pf. 10p         93p         110p         -         93p         110p         -         93p         110p         -         100p         -         100p         -         100p         -         100p         Fill         100p         Fill         100p         -         -         100p         -         -         -         100p         -         -         100p         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	Rolls 200 12 14 13 25 1 4 12 14 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
69 Property (51)	1153.9 360.4	7 +1.2	5.50 10.86	2.81	23.29 11.57	15.18 9.54	1140.42 360.76	363.96		1244.29	F.P.         100         993         If wide Ass. 11 Jun 7.0.09         993         994           1000         Hill         29/9         2000         11 Jun 7.0.09         994         994           4         F.P.         100         994.3         Do. 11 Jun 29 5.00         994         994           4         F.P.         -         854         784         BT Capital Pass 21 yer. CV Uns La 2000	1122         120         12         12         14         13         (*247)         260         21         15         15         15         15         15         16         16         16         16         16         16         16         16         16         16         16         16         16         16         15         15         15         15         15         16         16         16         16         16         17         30         37         7         12         18         16         17         30         37         7         12         18         16         17         30         37         7         12         18         16         17         30         37         7         12         18         16         13         14         22         25         26         37         12         18         13         14         22         25         26         37         12         14         13         14         13         14         15         13         14         13         15         13         14         13         14         13         14         15         14         14         14 <th< td=""></th<>
71 Investment Trusts (78)	885.3 511.8	1 -12	9.36	3.18 3.67 4.92	12.08	13.49 8.32	886.27 518.03	894.65 521.99	522.73	1121.13	100p         Hir         29/9         20mm         Jim         Picsunana 7.75pc Cr Cm Rd Pf         Jim         -1           4         F.P.         -         85/2         78/2         RT Capital Plans 2/2 pc Cr Rd Pf         100m         80         +1           100p         F.P.         -         86/2         78/2         RT Capital Plans 2/2 pc Cr Rd Pf         200         80         +1           100p         F.P.         -         106p         96/p         framate 8/2 pc Cr Rd Pr. 2003         100p         +2           5100p         F.P.         -         96/p         95/p         York Trust Grp. Rd Car. Cr. Pf. 2009         100p         +2	280 4 12 15 27 28 33 Sour 120 72 141 19 4 94 114
91 Overseas Traders (8) 99 ALL-SHARE INDEX (710)	911.1 911.1	/	<u> 10.14</u> -	4.52	11.59	35.31 21.56	1134.69 931.07	1145.86 921.68		1180.94		240         1         4         -         32         -         Tesco         140         6         11         14         5         8:         10           Shelt Trans.         950         58         -         -         -         -         7esco         140         6         11         14         5         8:         10           Shelt Trans.         950         58         -
FT-SE 100 SHARE INDEX 4	No.	Day's Change	Day's High	Day's Low	Ang 30	Aug 26	Aag 25	Aug 24	Aug 23	Year ago	RIGHTS OFFERS	Shell Trans.         950         58
1. 1-25 TAO 2HAKE TUREY &************************************	1753.	)I - <u>1</u> .2)	1761.71	1753.6	1754.81	1770.71	1780.21	1819.2	1617.9	2249.5	lisser Actional Latest 1988	(*207) 220 8 13 22 128 22 26 Thorn EMI 550 90 104 - 1 4 - 240 24 9 13 37 30 42 (*632) 600 40 56 70 5 10 18
											p ny Date High Low p	Trafager House         300         16         22         20         8         16         20         650         8         28         40         25         32         45           (*305)         330         5         9         13         28         34         36         10016/eer         420         27         40         52         5         111         15           300         2         3         27         42         -         (*440)         460         3         17         31         23         34           7.5.8         98         13         16         -         1         -2         -         (*440)         460         3         17         31         23         34         36         34
<b>FIXED INTERE</b>	ст			AVERAG	E GROSS	FLAS		Ved Lug 31,	Tue Aug 30	Year	150 Mil - 45pm 40pm Porsistion Lateratories 20p	(*1021 100 5 9 11 5 5 7 Welkcome 460 40 57 3 12 - 110 2 41 51 11 12 121 (*1922) 500 14 32 48 14 30 35
				_				31	30	(approx.)	18         Hit         21/9         Team         Leam         Every Constal 1p         Team         Span	Utd. Biscuits         250         14         20         27         6         9         13         Option         See         Dec         Apr         See         Dec         Apr           (*265)         280         8         13         18         16         21         25         Boots         200         14         20         26         6         10         13           Uttransm         240         24         35         -         75         14         -         6         200         13         26         6         10         13           Uttransm         240         25         -         75         14         -         6         200         25         6         10         13           (*205)         220         13         25         -         75         24         30         -         75         14         -         7         200         220         3         9         16         15         21         23           (*205)         220         3         9         16         15         21         23         36
PRICE Wed Day's Tu INDICES Aug change Au 31 % 36	ue xa ug tu	adj, xd a oday 198 to da	8 1	Britisk Ga Low Compons	5	years		9.70	18.09	9.55 9.84 9.69	180         Hit         175m         Spm         Fride         100m         +2           30         HH         22/9         210m         11mm         Hithen Square         11mm         11mm           25         HH         12/9         10pm         2pm         Hithen Square         11pm         11pm	280 6 17% 24 30 35 42 240 5 4 9 34 30 36 50
British Government	-		34	Medium	25	years		9.38 10.50 9.93	9.35	9.69 10.36 18.11	a Annualised dividend. b Figures based on prospectus estimates d Dividend rate paid or payable on part of capital, cover have on dividend on full capital. 9 Assumed dividend and yields Dividend and yield estudie speciale special payment, a Foretas, or estimated annualised dividend rate, cover based on providens year's Banhaya, L Stimated annualised dividend, cover and ope based on latest annual examps. M Dividend and yield based on Prospectar or other official estimates for 1968. N Dividend and yield based on prospectus or other official estimates for 1969, Q Cross. R Foretast annualised dividend, cover and ope ratio based on prospectus or other official estimates for 1969, Q Cross. R Foretast annualised dividend cover and pre ratio based on prospectus or other official estimates for 1969, Q Cross. R Foretast annualised dividend cover and oper antib based on prospectus or other official estimates for 1969, Q Cross. R Foretast annualised dividend cover and pre ratio based on prospectus or other official estimates on 1969, Q Cross. R Foretast based is toouection with intergrandstation merger or takeness f Alfondard price. 9 Unlisted senarities market. 4 Official London tisting Q factualing warrants estiment, " Taird Market,	Wootworth (*239)         240         11         22         30         18         17         18         Optimize         out         and         out           (*239)         260         3         12         20         25         27         28         Britten Cas         150         17/2         23         24         3         474           (*239)         280         1         8         13         45         45         47         (*273)         1200         34         9         111         84         10         12
1 5 years	.63	- 9.	34 9	Coupons High	25	years years		9.63	9.92 9.61 10.61	9.91	Orbitem Correr and tyle based on latest annual earning. M Dividend and pield based on Prospectus or other official estimates for 1988. N Dividend and pield based on prospectus or other official estimates for 1989, Q Gross, R Forceast, annualised dividend, cover and pier atto based on prospectus or other official estimates. W Pro Force, Report, V Isseed	Option         Sep         Hor         Jan         Sep         Hor         Jan           Option         Sep         Hor         Jan         Sep         Hor         Jan         Sep         Hor         Jan           Option         Sep         Hor         Jan         Sep         Hor         Jan         Sep         Hor         Jan           Ladicrole         390         55         63         47         16         25         37         420         8         17         20         16         25         37         46         12         16         25         57
3 Over 15 years	.34	8.	49 .9	Coupons		years		0.07 9.62	10.06 9.61 9.97	10.30 9.93 9.80	batel in connection with remainders of ordinary starts 25 3 "rights", i latroduction.#Placing price fr Reintroduction.# Issued in connection with remainders in an every or statement JAIntonent price.# Unlisted securities market.# Official London fisting.() including warrants entitlement," Taird Market.	Ladhroke 390 55 63 47 (4097) 420 8 17 20 16 25 30 (436) 420 30 43 48 11 15 17 460 18 22 27 33 37 38 Option (Aug Nov Feb Aug Nov Feb
5 All stocks			11	Inflation	iked rate 5%			-				Optics Nov. Feb. May Nov. Feb. May (************************************
6 5 years	31	- 2	43 13	Inflation Inflation	rate 10%		5 yrs 5 yrs	3.32 3.89 2.24 3.72	3.28 3.88 2.21 3.71	3.32 3.98 3.23 3.97		(*489) 500 19 57 45 55 42 43 Tr 1276 1995 106 8 12 12 12 12 14 14 14 14
8 All stocks 120.54 -0.08 120. 9 Beteners & Lazer	_		15	Debs &	ani al 78	5 year 15 year	5	1.31	11.21 11.12	11.37 11.36	First Dealings Aug 22 Property, Control Securities, Ken-	265 11 12 - Option Aug Sep Oct Nov Aug Sep Oct Nov
10 Preference	_	_	61 17	Preferenc	t	25 year	S	1.12	11.07	11.36	Last Deallogs Set 9 HebDroparty Michael Singer and	(*441.) 420 34 49 54 11 16 22 mmer 1700 57 70 85 95 3 18 30 42
Opening index 1756.1; 10 am 1761.4; 11 am	1755.	3; Noon 17	_	_		758.4;3		_			For rate indications see and of Holdings, Rex Williams, Top London Share Service Value, Premier Consolidated.	460         13         26         32         32         35         42.         (*1756)         1750         7         37         50         65         52         36         50         60           #rit. Telecom         220         20         22         28         51         8         10         1750         1750         7         37         50         65         50         60           #rit. Telecom         220         20         22         28         51         8         10         1850         32         15         28         40         43         63         80         85           @rit. Telecom         200         8         12         138         13         17         20         11500         32         7         15         27         94         108         113         120           Cadbury Sciwepper         330         42         57         -         5         11         -         1790         2         1         4         9         194         208         208         208         208         208         208         208         208         208         208         208         208         208
Flat yield. Highs and lows record, base dates, is available from the Publishers, The Finan	, values Incial Til	and constitutions, Bracke	uent char n House,	nges are p Cangon S	ublished l Street, Lo	ndon EC	ay issues. 4P 4BY, 1	A new II price 15p	st of con by post	stituents 32p.	Calls were arranged in Moun- tleigh, Tyndall Holdings, Dares Estates, Charlersearch, Ragian BSR and Ladbroke.	Cathany Schwepper (7963)         330 360         42 337         57 43         - 18         24 40         29 45         - 18         1950 2000         25 2         1 1         4         9         194 244         208 257         258 258           390         12         21         28         40         40         45         -         2000         22         12         3         6         244         257         258         258           Galaxies         300         17         26         30         10         13         16         FT-SE lades:         Calls 2466 Puts 5169         5169           (*306)         330         4         12         17         20         32         35         FT-SE lades: Calls 2466 Puts 5169         9
											, Chairersearch, ragian BSR and Lindbroke.	
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New Issue



insurance and other activities grew by 11.6% to Dfl 4.3bn.

Earnings per share were Dfl 2.43, an increase of 9.5%.

2.7bn, Dfl 400m higher than at the end of 1987.

has been declared.

Barring unforeseen circumstances and exchange fluctuations, profit for 1988 will at least equal profit exclusive of exceptional items for 1987 (Dfl 262.4m).

Copies of the Hall Year Report can be obtained from: AMEV (UK) Limited, 1 Houndwell Place, Southampton SO9 INY. Telephone: 0703 37411

#### **AMEV Worldwide**

AMEV is an international insurance and financial services group based in the Netherlands. Its shares are quoted on the Amsterdam Stock Exchange and options on AMEV bearer certificates are traded on the European Options Exchange. Total assets are Dfl 27bn.

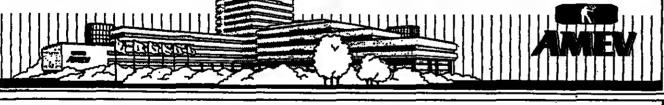
AMEV operates in 13 countries: Belgium, Denmark, Eire, France, the Netherlands, Spain, Switzerland, the United Kingdom, Australia, New Zealand, Hong Kong, Singapore and the USA.

#### **AMEV** in the UK

AMEV (UK) offers a comprehensive range of financial services through its operating companies, Gresham Assurance Group and Bishopsgate Insurance. Gresham is engaged in all aspects of life assurance, pensions, mortgages and unit trusts. Bishopsgate, together with its subsidiary Leadenhall Insurance, is a general insurance company operating in marine and non-marine business through the London market as

well as in travel, motor and other personal insurances.

N.V. AMEV, Utrecht, The Netherlands



**at** 

### WALES

The Financial Times proposes to publish this survey on:

19th September 1988

For a full editorial synopsis and advertisement details, please contact:

CLIVE RADFORD on Bristol (0272) 292565 Fax (0272) 225974

or write to him at:

Merchants House, Wapping Road Bristol BS1 4RW

# HYPORBA

This announcement appears as a matter of record only.

# Hypobank International S.A.

Luxembourg

DM 100,000,000

5%% Bearer Bonds of 1988/1993

Issue Price: 100 ½ %

Listing: Munich and Frankfurt am Main

#### Bayerische Hypotheken- und Wechsel-Bank Aktiengesellschaft

# HONG KONG AS A FINANCIAL CENTRE

The Financial Times proposes to publish a Survey on the above on

**26TH OCTOBER 1988** 

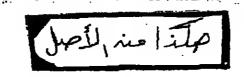
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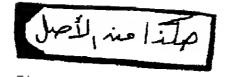
#### PETER HIGHLAND

on 01-248-8000 ext 3595 or write to him at:

Bracken House, 10 Cannon Street London EC4P 4BY.

FINANCIAL TIMES





#### LONDON STOCK EXCHANGE

# in equities fails to take hold AN ATTEMPTED technical Account Dealing Dates 6.9 points in early trading but softened later, slipping away at the close to show a net fall of

rally in the UK equity market ran into the sand in late dealings yesterday as underlying worries about sterling and domestic interest rates reasserted themselves. Firmness in the dollar helped international blue chip stocks, but UK Government bonds slipped lower construction and consum

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issues, which have taken the brunt of the shakeout in equities since last week's increase. in UK base rates in the wake of the record monthly trade deficit, tried to rally after three sessions of falling share prices. There was little strength

Maxwell

announced early yesterday morning, took some dealers by

surprise. After touching 221p.

4 on the day. The deal was recommended

by the AGB hoard, but not irre-

vocably, leading to speculation among analysts that another

was obscured by reporting

bought. The agency broking

ingri: 800 5 3ep 19 Aug 15 Sep 1 - -Sep 15 Sep 29 Last Deallegs: Sep 2 Bep 15 ·Beg 50 Account Days Sep 12 Sep 25 Oct 10 -"New give dealings, may take place from 9.88 are ins basisses days vertier

however, and the final picture was unimpressive.

The weakness in Gilts was described by Mr John Shepperd of Warburg Securities as particularly discomforting in view of yesterday's steady trend in the Sterling Index. The Gilt-edged market is still conbehind a round of early gains, sidered to be very vulnerable

FT-A All-Share Index

to developments in the foreign exchange markets and bond traders have been walking on eggshells since last week's UK trade figures shock. While the bond market now faces a blank period for UK economic data, there is ner-

vousness ahead of the announcement on Friday of the latest employment figures from across the Atlantic. Business in Gilts was slack with traders taking a cautious

Equity shares traded

Turnover by volume (million)

business between marketmak-ers. The trading war between view. Longer dated issues closed with losses of 4, with stock taken up on yields just below 10 per cent. Shorts gave up % or so, also without seeing the big securities houses took a new turn when Warburg Secu-rities narrowed its pricing spread in several of the big property shares, but lifted its much activity. The FT-SE 100 Index added pargain size to 200.000 shares about twice competitive quoted

money markets.

sizes and a far cry from the 5,000 shares recently quoted by some firms.

1.2 at 1753.6. The mood The market received some remained very nervous, with attention still fixed on the forencouragement from a return of speculative interest after Wereldhave, the Dutch group, purchased sbares in Peachey eign exchange and London Equity turnover remained thin, with the Seag shares total of 357.2m expected to include a Property, putting a price tag of £282m on the UK property group, and Pergamon Professubstantial contribution from tional and Financial Services

Ord. OI. Yield Earning Yid %(full) P/E Ratio(Net)(\$) SEAQ Bargains(5pm) Equity Turnover(Em)r Equity Bargainst Shares Traded (mi)r bid £134m for AGB, Britain's largest research company. However, a drag on the mar-ket was unusual activity in "Footsie" futures in the neigh-Ordin bouring LIFFE market. Reports suggested that a leading US house had apparently taken a bestish stance on TTK equities.

too much variation in price. The High Street retailers but British Gas eased to 172½p amid turnover of 5.6m shares. took on a steadier appearance as recent selling pressure Financial issnes made a abated. However, with the undertone of the market still extremely fragile, most quotabright showing, with the clear-ing banks still wanted on the tions showed minor losses on the day. There was another good two-way business in Sears (volume amounted to expected benefits of higher base rates, and insurance shares encouraged by a batch some 6.8m), but with sellers eventually in command the shares eased 4% further to 131p.

Avdel advanced to 64%p before settling 5% up on the day at 63p following news that Banner Industries has acquired an option to purchase Suter's holding of 35m ordinary shares in the group at 70p per share. Suter put on 4 to 177p. Granada attracted more

business than most (2.6m) with the shares nudging a few pence higher to 292p. British Airways were also among the more actively traded stocks (5m) but settled 2 cheaper at 147p. Yale & Valor, in which Williams Holdings and Ingersoll Rand both hold stakes, took a dis-tinct turn for the better with an improvement of 10 to 410p. The postponed annual general meeting takes place today. A stale Food sector was

enlivened late on by a run in SW Berisford. In thin overall turnover, the shares jumped 15 to 371p, with dealers saying they were not aware of any special reason for the rise. A late split order of some 350,000 shares was enough to move the price of a stock which dealers

small quantities of stock,

. . .

mends Lex, saying that "the rating is too low because fears of imminent cyclical peaking in UK automotive retailing and US electronic distribution are overdone". The research team there also thinks the a recov ery in the profitablity of US electronic component business is largely still to come. Morgan Grenfell favours Lucas, advising clients to buy for a major re-rating as

adverse sentiment subsides". The shares offer consistent outperformance from the current price level, particularly prior to the annual results in October, Morganconcludes. Two other distributors in the

van of the recent downturn perked up considerably. Har-

twell gained 6 to 120p, while T Cowie bounced back 5 to 111p. Enlivened to a certain extent

conditions because it has no variable rate debt. MEPC revived with a gain of 9½ at 523½p, while Great Portland at 341p, were 5 better. Slough Estates held most of an earlier gain to close 6 dearer at 292p following the interim fig-

TITE Awaiting further developments in the friendly merger

**BAT Industries** continued to trade well. Turnover was down on recent levels but, at 2.5m shares, it was still above most other Alpha stocks. At the close the BAT price was a

31

Since Compliate

(16/7/87) (25/6/

734.7 43.5 (15/2/53) (26/10/71)

105.3

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1344.0

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(3/1/75)

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49.4

Aug 30 Aug 26

Volume Clustery Day's 000's Price charge

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ASAR ARAR

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100.3

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High

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(9/1/35)

105.4 (28/11/47)

further activity in the FT-SE 100 Index contract, which attracted 2,486 calls and 5,169 puts. Both Trustbouse Forte, 1,541 calls, 750 puts, and Sears, 2,193 calls and 255 puts remained active, but the busi-est feature was British Gas with 1,395 calls and 910 pnts. Overall, the market recorded a total of 32,092 contracts, of which 16,710 were for the call and 15,383 for the put.

 Other market statistics. including FT-Actuaries Share Index and London **Traded Options, Page 30** 

hopes to 960 win AGB AGB RESEARCH saw its shares rise again when it was confirmed that Mr Robert Mar-well's Pergamon Professional 920 & Financial Services (PPFS) had made a £134m bid at 220p 900 cash per share. The bid.

AGB shares settled at 218p, up values Peachey at around £282m. Wereldhave had received acceptances in respect of 12.5 per cent of Peachey ordinary shares. Only a short while ago, Peachey revised its net asset value estimate to 676p in an effort to fend off bidder might appear. Trade yesterday was brisk and although the turnover figure Wereldhave's unwelcome attentions. The Peachey share price closed 32 higher at 644p. errors, dealers estimated that around 5m AGB shares were side of Alexanders Laing & Cruickshank was believed to

#### **Burmah shines**

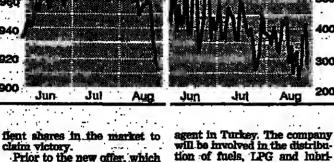
have been acting again on Per-gamon's behalf, offering 220p for immediate delivery of AGB stock. By the close, it looked as if PPFS had picked up roughly another 12 per cent of AGB, raising its holding to some 27 per cent. Rival MAI has 8.9 per

rities Europe. She believes the group's strength "lies in its geographical spread and ability to utilize its brands, manage-Mr Maxwell has declared nlans for PPFS to develop an employment services division, a statement which some analysts say might point to a later bid for Blue Arrow: The favourite to counter-bid for AGB is Swiss-based, cash-rich

Adia, which hid for Manpower last year. Maxwell Communications,

was also in the news yesterday as it reported disappointing interim profits of £72m. Despite the poor figures, the shares performed strongly, adding 3 to 199p after breaching the 200p

level earlier on. Turnover of 5.8m was boosted by two trades of



cants to the Turkish market.

One of the world's largest marketers and producers of Inbricants, Burmah Oil, gave a slash of colour to an otherwise drab energy sector. The shares rose 9 to 512p in concert with a strong buy signal from Dr Homa Motamen of CIBC Secu-

ment and marketing tech-niques to achieve leadershin in specialized market sectors". The current price does not reflect the group's solid growth prospects or its estimated asset,

value of 19 per share, continnes Dr Motamen. Burmah should be able to benefit from sed oil prices this year and produce another excellent result. CIBC is looking for interim profits of £41m plus when the group reports next Thursday, and a full-year out-

come of £82m compared with

200 Aug

600

500

400

300

#### BSR setback

Electronics group BSR tum-bled 15 to 66p after the com-pany announced that the longrunning merger talks with an unnamed party had come to nothing. Turnover was 5.5m shares as investors reacted to tha news by selling stock heavily, forcing dealers to mark prices down.

One leading marketmaker commented that the market in the shares looked "very ner-yons", it is believed that the merger candidate withdrew as a result of the recent increases in UK Interest rates, which raised its potential gearing costs to an unacceptable level. Daalers and analysts remained unsure of the identity of the candidate which was believed to be either Hong Kong or US based, but specu-lated that any new predator would have to be cash rich. One analyst referred to "ple in the sky", saying the announce-ment was the latest in a string of disappointments from BSR. International stocks were steady at their much reduced levels. Dealers could find little

shares are overpriced. The brewery sector again failed to excite. Broker County in the way of highlights, but mentioned a late drift in Bee-NatWest WoodMac recomcham, down 2 to 463p as analysts waited for news from the heart drug conference in Vienna. Elsewbere, Pearson mends a switch out of Whitbread into Bass, on the grounds that Whitbread's floating rate debt will prove more

of good half time results. Among composite insurers, Guardian Royal Exchange (GRE) added a couple of pence to 178p after announcing interim profits of £111.7m, which was at the higher end of predictions. Traders fastened onto the 16% per cent increase in the interim dividend, which raised hopes of a further rise in the final payment. GRE's fig-ures were regarded as an excel-

lent omen for next week's trad-ing news from Sun Alliance, a penny firmer at 957p. Pearl Assurance added 2 to 469p after announcing half time profits also at the higher

end of expectations, followed by news that Mr Larry Adler's FAI Insurance has lifted its stake to 8,09 per cent. Speculative interest continues to fuel the Pearl price.

However; elsewhere in the life companies, speculative interest waned as traders shied away from the increased cost of financing such holdings. Allied Life (301p) and Legal & General (292p) fell back.

Among the insurance bro-kers. Steel Burrell Jones jumped 11 to 219p after the interim statement referred to higher pricing on marine reinsurance contracts following the Piper Alpha disaster. A switch developed out of

Sedgwick (231p) and into Wil-lis Faber, 3 better at 234p, Both brokers have interim figures due, Sedgwick on Sep 6 and Faber on Sep 13. Sedgwick have outperformed the sector on takeover hopes, and County NatWest WoodMac believes the

expensive to service. County

analysts have lowered their 1968 pre-tax forecast for Whit-bread by £10m to £212m. The shares were unimpressed, how-ever, with Whitbread gaining 2 to 286p and Bass slipping 2 to

describe as "dangerons to trade" on account of its volatil-Motor shares showed some

sign of emerging from the recent depression brought on by Jaguar's uncertainties.Selling pressure lifted and inves-tors began taking on board

2225 1220 1221 42 123 2 an à Crei 220522523220 14.71 including issues such as Lex Service and Lucas Industries,

Aug

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Opening @10 2m. @11 am. @12 p.c. @1 p.m. 1410.4 1414.2 1409.9 1411.3 1411.8

The following is based on trading volume for Alpha securities

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Government Secs

ary Shere Index, H

DAY'S HIGH 1415.0

business

ASDA Graeg

**Fixed** Interest

Ordinary

Gold Mines

Aug

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DAY'S LOW 1409.4

Cost. Gold Carriers

Grant Mo ENS "A"

Basis 100 Govi. Secs 15/10/26, Fixed Int. 1926, Ordinary 1/7/35, Gold Mines 12/9/55, SE Activity 1974,  $\alpha$  Nit 9.92 † Excluding intra-market

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413.9

both of which have recently

by the Peachey developments, Property shares staged a welcome rally. In its current weekly review of the sector, Hoare Govett, the securities house, believes that the recent slide in property shares, partic-ularly in the case of the lead-ing investment companies is unjustified. Land Securities, up 8¼ at 544pp, is rated as excel-lent value in uncertain market

FINANCIAL TIMES STOCK INDICES

24

Ago

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98.67 (25/5)

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(7/1)

Low

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(31/8)

94.14 (8/1)

1349.0 (8/2)

187.8 (18/6)

Indices

Gill Edged Bargan

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Equity Bargains Equity Value

5-Osy average

Gin Edged Ban Equity Bargains Equity Value

• S.E. ACTIVITY

London Report and latest Share Index: Tel. 0896 129001

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Scott & Newcastle .....

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Tate & Lyte

Tesco ThiBRN EAU Tratzbjar Monse Trastitione Forte

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20,455 381.5

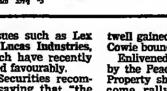
TRADING VOLUME IN MAJOR STOCKS

3 p.m. 14133

All these Notes have been sold. This announcement appears as a matter of record only.

with Farmers Group of the US,

touch lower at 439½p. In Traded Options, there was



Burnak DB Burnak DB Cable & Wircles Cable & Wircles Cablery Schwepter Cable S Wyeltz Conservat Juden been reviewed favourably. Warburg Securities recom

0.000 shares at 2019 which dealers said indicated firm dealers said indicated from institutional support. The profit news had been largely discounted in the run down over the last few days, but dealers said the shares were attractive on a yield basis and showed little downside.

#### **Peachey goes Dutch**

Peachey goes Dutch Peachey Property's days of independence quickly came to an end yesterday as the Dutch property group Wereldhave raised its cash offer for the company from 612p to 650p per share. The City immediately sensed that in the current cli-mate the increased cash offer would be enough to win the day. In the event, the move soon finished out willing sellers and by the end of trading. Wer-eldhave had mopped up suf-

£72.90m last time. Burmah acquired UK-based APP Chemicals, a leading Ruropean refiner and marketer of atactic polypropylene, for 28m yesterday. It also announced the formation of a £40m company, Turcas, in a 50/ 50 partnership with its local.

regained 12 of the recent loss

NEW HIGHS AND LOWS FOR 1988

Martin Jack States Stat

Controlway Ind., Coven de Gri., Dyson (L. A.1) X. J.S. Pathology, London Infl., Mayborn Grp., Parkfield Grp., Spong Hidge, Maynance (2) Darbaum (D.G.), Ratuge, Libburk (1) Solect TV, MOTORE (1) Maych Grp., Spice, IEWWARPERE (1) Portenouth & Sunderland, PAPERE (1) Portenouth & Sunderland, PAPERE (1) Portenouth & Sunderland, PAPERE (1) Rouges Grp., Notion Oper, Prospective Grp., Sastchi & Sauthol 23% CV, PL, WCRS Grp., Motorestry (2) Connetly, Excel Age, Bourlieod Statture By C. Y. PL, THISTE BOURSTY (2) Connetly, Easte Agenes, Bourlieod Statture By C.Y. PL, THISTE BUT Drogmorion Tat, Bable, LLT. Hydpa. Trawwood, Do., Wrmis, Olfs (2) BJE FW, T2/56 LD., Katt Energy, Other Flee, Statter Hill Durban Deep, Angle Am Gott (Sold Fill) Durban Deep, Angle Am Gott (Sold Fill) Cathen Deep, Angle Am Gott (Sold Fill) Durban Deep, Angle Am Gott (Sold Fill) Cathen Deep, Angle Am G Nor-Quest Res., Thorse Res., THERE MARKET (2) Caldwell (patr., Far East Res., ...

to 250p and Bass supping 2 to 752p. Irish Distillers rose 3 more to 249p. Building shares, hit hard in the recent shake out, staged a largely technical rally. Condi-tions overall were described as "extremely quiet" and there was little substance to the was little substance to the movement. BPB picked up 7% to 269%p, while ibstock John-sen, regarded by many as a stock with defensive merits. hardened a few pence to 177p. British Dredging, in which Newarthill and RMC both hold stakes, met with a flurry of speculative activity and put on 9 to 126p,



# **Caisse Centrale** de Coopération Economique

#### FRF 800.000.000

8¾ per cent. Guaranteed Notes due 1993

Issue Price: 101% per cent.

Unconditionally guaranteed by

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July 6, 1988

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### APPOINTMENTS

Brokers.

WALTER LAWRENCE PROJECT MANAGEMENT

Tony Paxford becomes

Mr Alan Nickalls, sales

of director, NEI INTERNATIONAL, He will

be based in Newcastle.

marketing manager.

has appointed Mr Bob Oliver as a director. He joins from Higgs & Hill Management, Mr

Senior posts at Forward Trust Mr Graham Picken has been Ministry of Defended and ELA at Cranter Market Market Ministry of Defended and ELA at Cranter Market Ministry of Defended and ELA at Cranter Market Ministry of Defended and ELA

Mr Graham Picken has been appointed a managing director of FORWARD TRUST GROUP. In addition to his current esponsibilities as director, operations, he has assumed overall control of all the instabuent finance and leasing businesses in the group. The recent acquisitions of Comfort London.

recent acquisitions of Comma Finance from RTZ, and Concord Leasing (UK) from Hong Kong & Shanghai Banking Corporation, are included. Mr Wallace Stein has been appointed director, corporate business division, following the mercer of the following the merger of the group's corporate and industrial finance divisions, and the acquisition of Concord Leasing (UK) of which Mr Stein has been appointed managing director.

Mr Graham Wilkes has been appointed a director of KINGSLAND DATA SERVICES, Birmingham.

■ 600 FANUC ROBOTICS, Colchester, has appointed Mr. Gerald P. Shrimpton as finance director and company secretary. The company is jointly owned by the 600 Group, and Fanne, of Japan. Mr.Shrimpton has been with the 600 Group for 18 years.

Mr Nell Grant has been appointed director of the FINANCE HOUSES ASSOCIATION and of the

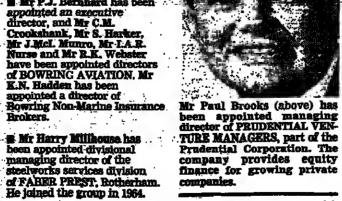
A Mr Mike Chesworth. formerly marketing and development director of START-RITE SHOES, Norwich, has been appointed joint managing director, sharing the post with the company's chairman, Mr David White. Mr P.J. Bernhard has be

Mr Giogio Questa, director general of IMI International and executive vice president of IMI, has been appointed chief executive of IMI CAPITAL MARKETS (UK),



Mr Roger Colomb (above) has been, appointed managing director manufacturing and marketing, at TEXACO, Lonmarketing, at TEXACO, Lon-don, with overall responsibil-ity for all downstream B MARINE AND GENERAL operations. He succeeds Mr Harry Matthews who has retired. Mr Colomb, who Richard CoxJohnson as a joined Texaco in 1954, was deputy managing director the PK English Trust, and financial and information ser. Sheraton Securities international; and a

<u>\_</u>::



Prudential Corporation. The company provides equity finance for growing private companies.

non-executive director of Premier Consolidated Oil Fields, and First Republic Bancorp.

STERLING KITCHENS, BEDROOMS AND DOORS has appointed Mr David Griffiths

ARTHUR ANDERSEN & CO has admitted to partnership Mr David Kirk, Mr Toshio Minoura, and Mr John Tiner (London); Mr GeorgeCampion and Mr David Lovett (Biriningham); Mr Bill Holmes (Newcastle); and Mr Godfrey Taylor (Manchester). Other admissions include: Mr David Canikill, formerly of the London office and now in

Lagos. ----

# as managing director.

director of of NEI Parsons, has en appointed to the new post

### COMMODITIES AND AGRICULTURE

# Indonesia sets out to encourage oil explorers

By John Murray Brown in Jakarta

INDONESIA YESTERDAY prices for oil, still Indonesia's announced investment biggest foreign exchange incentives for foreign oil companies in a bid to stem the Pertamina earlier announced downturn in exploration

activity. The changes were unveiled by Mr Ginandjar Kartasasmita. the Oil and Energy Minister. They are aimed at encouraging exploration of marginal fields which previously seemed unattractive because of high

development costs. The move comee as many foreign contractors are entering vital talks with Pertamina, the state oil monopoly, to extend existing 30-year contracts, nine of which are due to expire in the next 10 years.

The announcement follows months of concerted lobbying by the contractors, many of whom are reducing capital after the foreign contractor has epending in the face of low extracted costs and a 15 per

By Canute James in Kingston

THE JAMAICAN Government

has agreed with Alcan of Canada a cut of production taxes paid by the company on its bauxite (aluminium ore)

mining and refining operations

that budgeted spending by the foreign contractors would fall by 30 per cent in 1988-89, to about US\$2.3bn, down from

US\$3.28bn in 1967-88. A US embassy report warned that without significant new finds Indonesia, which is the only Asian member of the Organisation of Petroleum Exporting Countries, could run out of oil by the late 1990s.

Yesterday's changes include a new definition for when a field is considered commercial, previously a main etickingpoint. Pertamina will now issue a

production licence if it is assured of at least 25 per cent of the hlock's total oil revenues commercial.

Jamaica settles Alcan tax row

taxes at a rate of 33.3 per cent

cent share of the production. The previons ruling on commerciality, set at 49 per cent, meant few companies would explore frontier areas, where development costs and risks are that much greater, for example deep water or dense jungle.

gold, the company said after the strike ended yesterday, Reuter reports from The Government, in a Melbourne Ok Tedi is managed by BHP, which is a 30 per cent share-holder in the venture. further concession to the contractors, said that for small finds in these high-risk areas the production split would he altered from the existing ratio of 85:15, in favour Mr Richard Carter, Ok Tedi of Pertamina, to 80:20.

The Government clawed back ground by restructuring cost-recovery. It now takes a 20 per cent portion of the output before the contractor starts to recoup its costs. This applies even when a field is not established ae heing commercial

managing director, said throughput of about 50,000 tonnes a day was lost in the dispute over wages and living conditions, though shipments were maintained from stocks held at loading facilities on

"But they've gone back to work without any changes,"

**Ok** Tedi workers

strike

end 13-day

A 13-DAY strike by workers at Ok Tedi Mining, the Papua New Guinea copper and gold prodocer, cost up to 6,000 tonnes of copper concentrate output and 25,000 onnes of

he said. Mr Carter said the strike accelerated Ok Tedi's conversion from a copper/gold producer to an all-copper pro-

dncer. A gold leaching plant, which yielded 10,558kg in this first half, was mothballed in the strike, ending gold-hullion ontput three weeks earlier they planned. than planned. Ok Tedi resumes operations

as a producer of copper concentrate with a high gold-content rating. Mr Carter said thronghpnt will restart at about 50,000 tonnes of ore a day, rising to 70,000 tonnes.

**PNG's gold** outlook

bright

Mining Correspondent

PAPUA NEW GUINEA could PAPUA NEW GUINEA could hecome the world's fastest-growing gold producer in the next five years, James Capel, stockbrokers, said. Its gold output could grow from about 30 tonnes (964,500 troy oz) this year to 90 tonnes (2.89m troy oz) in 1992-83. But this depended on decisions in the next four months about the world's two largest undeveloped gold

largest undeveloped gold deposits, both in PNG: • Porgera deposit, awaiting

of which owns 80 per cent.

Making time for Africa's food John Madeley on a UN project to free women from drudgery

N ISOLATED villages in n isolatted villages in countries, The Gambia, an important clue is emerging as to how at least some of the continent's food problems can be eased.

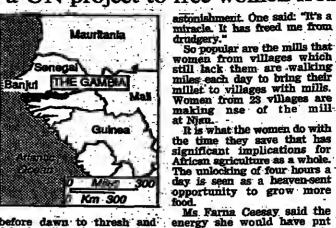
Results of a project funded by the United Nations Development Fund for Women (Unifem), which is based in New York, suggest that if African women were released from the many hours of drudgery that most of them face they would use the time to grow more food.

The project has supplied milling machines to 15 Gambian village communities to grind millet, the coarse grain, into the flour which serves as their staple food.

The mills, as they are known locally, have become the talking point of village life in The Gambia and have led to badly-needed increases in food ontput.

ontput. For millions of Africans millet, a drought-resistant crop, is all that stands between life and death. While men usually grow the millet, it is the women who weed the crop and pound the harvested product.

Turning millet into flour is a job that African women traditionally do by hand. This usually means about four hours of laborious, hand-blistering pounding each day. Before pounding the millet into flour, the women thresh the grain, separating the millet from the stalk for about two hours and then remove the husks, another hour'e work at least. In all, therefore, about seven hours' work is needed. In the village of Nau, close to the border with Senegal, Ms Farna Ceesay, 40, used to rise



before dawn to thresh and dehusk millet. She would then head for the fields to weed, hoe and growing more. She has planted maize and beans, some of which she sells, giving her a cash income for the first time in her life. Another woman said that and generally care for the

crops used to go to the fields with the pounding hanging; over me, waiting for me when I got back home," she

she grows peanuts and rice in the time she saves. She sells the nnts and earne close to \$150 a year, a significant amount in rural said. After the pounding was done she would search for wood-fuel, draw water, and, much later, cook the family's evening meal. A 16-hour day, eeven days a week, was her unenviahle lot, as it is for millions of African women. Today, Ms Farna Ceesay and the other women of Njan Gembia. In the village of Faraha Banta, which also has a mill, the women have expanded thair vegetable gardens to grow more cabbages, onions, tomatoes, soure! (African spinach), carrots, peppers and village pound no longer. Instead of processing millet by hand they take it to the shed that houses a small diesel-powered mill and leave it for trained operators to grind.

The machine grinds the going hungry and having millet in five minutes. The women pay about one US cent: a kilogram for the service and save four hours a day. The women view this saving, of time with delight and

astonishment. One said: "It's a miracle. It has freed me from drudgery." So popular are the mills that women from villages which still lack them are walking milles each day to bring their millet to villages with mills.

into pounding she now puts into the fields, weeding more

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

women from villages which still lack them are walking miles each day to bring their millet to villages with mills. Women from 23 villages are making nse of the mill-

especially rice. "If women get the technology, Gambia could be gelf-sufficient in food," said a field worker.

The West German-made mills cost about £800 each and a community that receives one saves an equivalent amount over five years. This is then paid back to Unifem, allowing the agency to hny mille for other villages.

Milling machines are as yet in their infancy in Africa. "Probably less than 5 per cent of African villages have machines that put an end to pounding hy hand," said a representative of Intermediate Technology Development Group, which is based in Rueby. Rugby.

The spread of such machines across African countries that grow millet, sorghum and other coarse grains could boost food ontput in some areas where a boost is most needed

Possibilities exist for saving yet more time. Women in The Gambia, having tasted aubergines. Some Gambian villages are finding that the extra food they now grow is making the all-important difference between modern technology, are wondering what else is available.

In Njan village a woman said: "I'm thankful for the mill but it's still a full day for us. What we need now is a thresher that can save us two hours a day."

# Dairy co-op seeks export boost

#### By Hilary Barnes in Copenhagen

company, Mejeriselskahet Danmark, aims to become an international supplier of

international public. • Prepare for the intensified competition it expects to meet within the European within the European Community after creation of

It is a leading exporter of butter, cheese and other milk products but these are usually marketed as Danish products and not under the company label.

In the year which ended on July 31 his exports fell by 3.1 per cent, to 45,600 tonnes. The union was able to Mr F. A. Christiansen, the increase its export prices in April because of what it co-operative's managing director, said: "The EC milk described as a temporary easing of volume and price. quotes restrict our growth and ve must therefore expand abroad by becoming a well-known supplier of brandname goods."

Its plans include acquiring affected. dairies abroad. It has its eye on Ireland and the US in

remained difficult over the past 12 months, the Swiss Cheese Union said, writes John Wicks in Zurich. By Robert Gibbens in Montreal

THE - Saskatchewan Wheat Pool, a big farmers co-operative, now estimates that the Canadian-prairie province's grain harvest will total 10.6m tonnes this year, down from its July estimate of 12m tormes.

That would be 48 per cent below the five-year average of 20.5m tonnes, including wheat, oats, barley, rye, flaxseed and canola. The lower expected output is attributed to the severe drought which gripped

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of Emmental being particularly and the afference

the economics of alumina [aluminium oxide] for the on its local operations. The company, which has been producing about 700,000 future." Industry representatives said the deal with Alcan would tonnes of alumina a year from Its two plants, will now lift contribute to the Jamaican output to just under 1m tonnes a year by the end of 1989, and

in the island. In retnrn, Alcan will progressively increase production, eventually bringing its two refineries on the island to full rated yes

capacity. Mr Edward Seaga, Jamaica's Prime Minister, said the new tax regime was similar to that agreed this year with the Aluminum Company of America, a joint owner of a refinery in the island.

The levy, criticised hy the companies since imposition 14 years ago, has been halved to a rate of 3 per cent of the average realised market price for aluminium ingot, while for aluminium ingot, while materials, said the new pact Alcan will now pay corporate represented \*a realistic view of

Mr Seaga said: "The former Mr Seaga said: "The former levy regime has been replaced by a hasic levy Indexed ae hefore to the actual prices realised for primary aluminium, except that this will now he charged as a normal production cost, with net profits heing liahle to Jamaican corporate tax. This agreement is fair and

Government's efforts to raise mining and refining of bauxite. then raise this to full rated capacity of 1.09m tonnee a The island, the world's third

largest haurite producer, after Australia and Guinea, produced 7.7m tonnes of the

agreement is fair and beneficial to both parties." facility closed three years ago. Mr Gerald Clarke, Alcan executive director for raw

ore last year. A government official said conclusion of the pact would leave the Government free to concentrate on current efforts to reopen the island's largest refinery, a 1.3m tonne-a-year

The Government has been negotiating reopening terms with Kaiser Aluminum of the US, one of the refinery's owners.

# China aims to top rare earth league

#### By Lynne Curry in Peking

CHINA WAS aiming to become the world's higgest rareearth exporter hy 1990, China Daily, the official English-language newspaper,

Rare earths contain metallic elements frequently used in the electronics and high-technology industries.

on 1985. China has the world's largest reserves hut China Daily said the country ranked second to the US in exports. The US,

Hebei Province, it was reported that rare-earth production reached 15,100 tons the rare-earth supervisory group of the State Economic Commission was quoted as saying that agreement would be difficult to last year, a 6,000-ton increase

• The paper said China had established rare-earth joint

By Kenneth Gooding,

government approval and the granting of a special lease; • Lihir Island project, being mulled over by British Petro-leum, the BP Gold subsidiary

DENMARK'S BIGGEST dairy brand-name foods.

The company, a cooperative, is planning to break out of limitations imposed on

Danish milk supply. It will charge its name to MD Foods this antumn. The change is being made to: • Help the company make itself better known to an

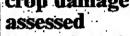
enough. In one village the president of a women's group said: Before the mill came, we were sometimes short of food. Now we have food and some left to

pressure.

However, that was accompa-

nied by singgish demand, sales

# Saskatchewan

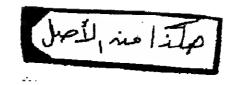


crop damage

	vapan and righter are me	ACTIVITES TH OTHERAT LICATION		THE BOAR SHARE THAT FOR THE TROPE.		Sumetral accounts to of	HOSE DRICK OF THE DECARAGE THIS.
	leading processors of rare-		Pacific, Renison Goldfields	The group processes about	view to applying Danish	per cent of all exports by the	
	earth minerals.	zone.	and MIM Holdings, each own a	lim tonnee of milk a year,			
	The paper said China		third of Porgera. Capel said BP		market share in the European	ebrinz, a grating cheese.	The co-operative said the
the country planned to			Gold was likely to have a		Community, the US as a way		quality of most crops delivered
increase this to 30 per			stockmarket quotation soon.		to evade market limits on US	Exports make up almost 60	to elevators was high but it
cent in two years, the paper	about importing advanced		PNG would become fifth		imports.	per cent of all sales by	might deteriorate because of
said.	technology to further		available gold equity market			members of the union, which	recent heavy rains. Harvesting
At a conference on rare-	develop rare-earth products.	achieved in industrialised	after Sonth Africa, the US,	amounted to about Dkr11hn	• Conditione on the	fell in 1987-88 by 2.3 per cent, to	has been disrupted by the
earth, held recently in	However, an official from	countries.	Canada and Australia.	(£905m).	international cheese market		weather.

				JIG BERNESS		
NDON MARKETS	COCOA S/tonne	LONDON METAL EXCHANGE	(Prices supplied by Amaigamated Metal Trading)	US MARKETS	COFFEE "C" 37,500lbs; cents/bs	SOYABEAN MEAL 100 Ions; \$/ton
WAS the star turn on the London	Close Previous High/Low	Ciose Previous High/	Low AM Official Kerb close Open Interest		Close Previous High/Low	Close Previous High/Low
al Exchange yestarday. As news ol	Sop 905 001 919 899 Dec 848 850 864 846	Aluminium, 93.7% purity (\$ per tonne)	Ring turnover 100 tonne	New York	Sep 123.25 120.90 123.50 110.00 Dec 123.83 121.17 124.25 120.00	Sep 266.7 264.7 267.5 263.0
er than anticipated production	Dec 848 850 864 846 Mar 824 834 843 820	Cash 2780-800 2840-50	2780-800		Dec 123.83 121.17 124.25 120.00 Mar 122.75 120.13 122.75 119.10	<ul> <li>Oct 265.2 262.5 265.5 261.0</li> <li>Dec 254.2 261.6 265.0 259.0</li> </ul>
es al a Melaligesalischaft's plant at	May 830 847 852 828	3 months 2735-65 2776-85	2756-75 2740-60 9,063 lots	GOLD 100 troy oz. \$/troy oz.	May 122.50 120.18 122.50 119.01	Jan 262.2 258.7 263.5 268.5
burg added to existing concern at the tight supply altuation, the	Jul 838 858 862 838 Sep 845 671 874 845	Abuminium,92.5% parky (£ per torme)	Ring turnover \$3,000 tonne	Cione Previous High/Low	Jul 122.25 110.88 122.25 119.40 Bep 119.88 118.75 179.00 116.75	- Mar 250.2 255.2 259.0 255.0 * May 254.0 250.0 254.0 250.0
al was lifted to the highest prices	Dec 888 910 013 885	Cash 1654-9 1677-62 3 months 1568-9 1681-2 1590/1	1660-5 1569 1564-5 1569-70 43.345 lots	Sep 431.3 428.8 429.3 428.2 Oct 434.1 431.9 434.8 428.4	Dec 120.01 118.50 0 0	"May 254.0 250.0 254.0 250.0 Jul 250.0 245.0 250.0 246.0
hree-and-a-hall years in sterling	Turnover: 8342 (7011) lots of 10 tennes			Oct 434.1 431.9 434.8 429.4 Nov 437.0 0 0 0	SUGAR WORLD "71" 112,000 lbs; conts/lbs	Aug 236.6 235.0 236.0 239.0
s. That level was not maintained	ICCO Indicator prices (SDRs per tonne). Daily price for Aug 30: 1049.98 (1041.39) ;10 day aver-	Copper, Grade A (E per tonne)	Ring turnover 24,700 tonne	Dec 439.9 457.7 440.6 455.3 .	- Cioso Previous - High/Low	MAIZE 5,000 bu min; cents/36% bushel
ho cash price still closed £24 up at	age for Aug 31: 1075.58 (1081.81)	Cash 1397-9 1392-4 1396/ \$ months 1375-6 1365-6 1383/		Feb 446.1 443.9 446.4 441.3 Apr 452.1 449.9 452.7 447.4 .	Oct 10.25 70.18 10.29 9.69	Close Previous High/Low
a lonna, and lha three months 25 up at £804,75 a tonne. Tha West		Copper, Slanderd (E per torme)	Bing tumover 0 tome	Jun 458.1 455.9 457.0 453.0	Jan 9.47 9.22 . 9.60 . 9.60	Sep 263/0 279/0 253/2 276/0
nan company said dalays to	COFFEE Stonne	Cash 1330-40 1325-30	1330-40	Aug 484.4 482.2 0 0 Oct 470.7 468.5 489.0 485.5	- Mar 10.27 10.09 10.28 0.61 May 10.00 0.50 10.00 9.65 .	Dec 296/4 290/8 297/0 260/ Mar 300/4 294/2 301/2 291/4
irs at the Duisberg plant wara	Close Previous High/Low	3 months 1320-30 7315-20	1320-30 35 Iole	PLATINUM 50 tray og Sitray og	Jul 9.84 0.85 9.64 9.50	May 302/2 295/8 302/4 294/0
to raise output losses to 3,600	Sep 1019 1001 1022 994	Silver (US centerline ounce)	Ring turnover 0 azs		. Oct 9.58 9.46 0.50 9.35 Jan 9.01 0 0 0	Jul 299/2 292/4 300/0 290/0 Sep 281/4 277/0 283/0 275/0
es inslead of the 2,000 tonnes	Nov 1032 1014 1035 1006	Cash 650-2 651-2	640-3	Close Previous High/Low	COTTON 50,000; cente/lijs	Sep 281/4 277/0 283/0 275/ Dec 270/0 264/4 272/0 265/
nated earlier. The cocoa market also strong early on, with	Jan 1036 1015 1037 1010 Mar 1021 1004 1020 996	3 months 654-5 654-6	554-7 650-5 508 lots	Oct 533.9 525.8 534.5 528.5 Jan 538.2 531.1 540.0 529.5		WHEAT 5,000 bu min; cents/601b-bushel
day's raily being extended and tha	May 1015 1005 1020 995	Lead (E per tonne)	Ring turnover 4,375 tonner	- Apr 544.9 557.1 542.5 541.0	Close Previous High/Low	Close Previous High/Low
ember position touching a peak of	Jty 1010 1007 1015 1001 Sep 1025 1015	Cash 365-7 365-7	385.5-6		Oct 52.75 53.81 53.83 52.70 Dec 51.50 52.22 52.54 51.53	
a tonne. Bul prices lumbled near		3 months 371-2 370-1 578/38	9 371-1.5 \$71-2 11,059 lots		- Mer 51.70 52.13 52.40 81.60	Dec 415/6 414/8 416/0 411/
losa, in line with the weaker tona	Turnovor: 5884 (5244) lots of 8 tonnes ICCO indicator prices (US cents per pound) for	Nickel (5 per tonne)	Ring lumover 770 tonne	SILVER 5,000 troy oz, cents/troy oz.	May 51,75 52,23 52,60 51,75 Jul 52,25 52,55 52,60 52,10	Mar 418/2 417/2 419/0 413/0
aw York, and tha price finished tha E2 down al £848 a lonna.	Aug 30:Comp. daily 106.53 (109.17); . 15 day	Catah 13250-350 13100-200	18050-76	Close Pravious High/Low	Oct 53.15 53.65 58.35 58.10	May 391/0 390/4 394/0 390/ Jul 364/4 363/0 396/0 361/0
MARKETS	everage 106.50 (108.32).		12730 12800-60 12825-50 7,107 join	Sep 655.0 849.0 657.0 645.0 Oct 661.4 655.0 : 0	Dec \$3.25 63.95 54.18 58.25	LIVE CATTLE 40,000 ibs; cents/ibs
		Zinc (E per tonne)	Ring turnover 8,850 ionne	Nov 668.2 0 0 0	ORANGE JUICE 15,000 Rbs; cents/lbs *	Close Previous High/Low
oll (per barrel FOB September) + or -	SUGAR (\$ per tonne)	Cesh \$15-7 791-3 820/81 3 months 204.5-5 787-6 806/79		Dec 671.0 665.0 672.0 680.0 Jan 676.0 670.1 0 0	Close Previous High/Low	Oct 71.77 72.40 72.17 71.57
\$12,85-2,95g -0.065 Blond \$14,50-4,55y -0.02	Raw Close Previous High/Low	3 months 204.5-5 787-8 808/79		Mar 65.4 550.5 687.5 875.0	Sep 191.00 191.70 193.80 190.70 - Nov 183.80 183.05 184.30 182.70	Dec 72.50 72.77 72.67 72.22
(1 pm set) \$15.30-5.35q +0.05	Oct 238.00 235.60 237.50 230.00 Dec 239.00 234.00 236.00 231.00		· · · · ·	May 667.4 691.8 694.0 690.0 Jul 708.5 703.3 704.5 700.0	Jan 173.40 173.25 173.70 172.80	Feb 73.40 73.42 73.55 72.62 Apr 74.87 74.97 75.30 74.65
roducts	Mar 233.80 228.80 233.60 226.60	POTATOES L/bane	LONDON METAL EXCHANGE TRADED OFTICKS	Sep 719.5 714.7 713.0 713.0	Mar 170.50 170.20 170.90 _170.00	Jun 74.10 74.27 74.50 73.80
prompt delivery per tenne CIF)	May 227.40 222.80 226.60 221.00 Aug 226.40 221.00 221.00	Close Previous High/Low	Aluminium (99.7%) Calls Puts	Dec 736.5 732.0 736.0 730.0	May 169.25 168.65 169.00 169.60 Jul 187.75 187.30 167.50 167.50	Aug 71.50 71.50 72.00 71.40 Sep 71.25 71.25 0 0
lum Gesoline 5178-181 Oui 5128-129 + 0.5	Oct 226.00 221.00	Nov 67.0 68.0 65.0 64.9	Strike price \$ tonne Sept Nov Sept Nov	COPPER 25,000 /bs; cents/ibs	Sep 196.70 165.30 0 0 Nov 196.70 165.30 0 0	Sep 71.25 71.25 0 0 Oct 71.10 71.05 71.10 0
y Fuel Oil \$59-70 + 1	White Close Previous High/Low	Feb 76.0 75.0 Apr 95.8 98.1 96.8 94.7	2750 149	Close Previous High/Low	Nov 196.70 196.30 0 0	LIVE HOGS 30,000 lb; cents/ibs
the \$135-137 Hourn Argus Estimates	Oct 257.00 260 00 257.00 249.00	May 105.5 107.0	Altaninkan (29.5%) Calis Puts	Sep 103.80 101.80 103.90 100.80 Oct 102.93 103.90 0 0		Close Previous High/Low
	Dec 248.00 256.00 250.00 250.00 Mar 253.50 257.00 253.00 248.00	Turnover 255 (261) lots of 40 tonnes.	2800 52	Oct 102.90 100.90 0 0 Nov 101.95 0 0 0		Oct 28.55 39.15 39.25 38.47
(per troy az) - \$429.50 + 0.75	May 252.00 257.00 254.00 253.00	SOYABEAN MEAL Stanne	Copper (Grade A) Cuils Puts	Dec 101.00 99.50 101.50 96.30 - Jan 99.40 x98.15 98.10 97.76	Oblease	Dec 41.20 41.82 42.17 41.15
(per troy oz) 654c -3	Aug 250.00 258.00 255.00	Close Previous High/Low	2300 112	Mar 96.40 95.20 96.75 94,25	Chicago	Apr 42.82 43.60 43.75 (2.60
dium (per tray oz) \$528.0 + 1.5 dium (per tray oz) \$122.80 + 0.25	7urnover: Raw 2389 (1657) lots of 50 tonnes, White 1516 (714) .	Oct 171.00 169.00 171.50 168.50	- 2360 36	Mary 93.50 92.90 93.50 92.10 Jul 91.30 01.10 01.10 90.60	SOYABEANS 5,000 bu min; cents/60b bushel	Jun 47.27 47.75 47.90 47.27 Jul 48.20 48.70 48.90 48.20
inium (free market) \$2790 -40	Pana- White (FFr per torme): Oct 1805, Dec 1585,	Dec 179.00 176.00 180.00 179.00 Feb 183.00 180.00		Sep 88.30 89.30 89.00 89.00	Close Previous High/Low	Aug 47.02 47.02 47.25 0
er (US Producor) 1065-110c	Mar 1585, May 1595, Aug 1595 Oct 1605	Apr 183.60 180.50 185.00		Dec 87.00 - 87.40 87.00 86.30	Sep 854/4 \$47/0 \$66/0 \$41/4	Oct 44.05 44.55 45.10 43.50
(US Producer) 38c I (free market) 610c + 10	GAS DIL \$/tonne	Turnover 103 (46) loss of 20 tonnas.	-	CRUDE OIL (Light) 42,000 US gails S/barrel	Nov 867/4 859/2 889/4 854/4 Jan 874/4 867/0 877/0 862/0	PORK BELLES 38,000 lbs; cents/ib
Europoan Ireo marketi £4485 + 20		FREIGHT FUTURES \$10/Index point		Latest Previous High/Low	Mer 878/2 868/4 860/0 864/4	Close Previous High/Low
(uala Lumpur market) 10.79r New York) 348,50c -0.25	Close Previous High/Low Sep 127.75 128.00 129.50 127.50	Close Previous High/Low		Nov 15.27 15.33 15.49 15.25 Dec 15.34 15.43 15.56 13.52	Mary 870/0 867/4 870/0 856/0 Jul 869/4 849/2 860/0 846/0	Feb 48.90 -50.87 51.70 48.67 Mar 49.25 51.25 52.10 49.25
(Euro, Prod. Price) \$1275	Oct 130.25 130.50 132.00 129.75		- LONDON BULLION MARKET	Jan 15.38 15.47 15.58 15.58	Aug \$40/0 \$25/0 \$40/0 .823/0	49.25
(US Prime Westers) 65%c	Nov 132.50 133.25 134.25 132.00 Dec 134.75 136.00 136.00 134.25	Aug 1261 1261 1261 1261 Sep 1395 1383 1395 1385 Oct 1505 1500 1510 1505	Gold (fine oz) \$ price E equivalent	Feb 15.41 15.51 15.65 15.40 Mar 15.44 15.55 15.64 15.44		
(dead weight)? 112.68p -1.03" p (dead weight)? 162.33p -5.09"	Jan 132.50 132.50 133.50 132.25	Jen 1533 1855 1545 1585	Chose 423 4-423 4 255-256 2 Opening 427 2-428 254-254 2	Apr 15.62 15.59 15.62 15.55	SOYABEAN OIL 60,000 lbs; cents/ib	LUGANO -
(live weight)t 69.89p +0.90°	Feb 129.75 130.25 131.00 129.50 Mar 127.50 129.00 127.50	Apr 1570 1565 1578 1568 BFI 1272 1267	Morning fix 426.35 253,564	Jun 15.60 15.57 15.70 15.60 Jul 15.67 15.71 15.80 15.55	Close Previous High/Low	A BUSINESS CENTRE
on deily sugar (new) \$264.2a -2.8	Apr 127.50 128.25 129.00-	Turnover 221 (512)	Atternoon fix 427.75 254.765 Dey's high 450-430 <sup>3</sup> z	HEATING OIL 42,000 US galis, cents/US palls	Sep 26.85 26.27 26.86 26.10	The Financial Times proposes to
on daily sugar (white) \$262a + 1 and Lyle export price £265.5 -1.5	Turnover 6580 (5259) lots of 100 toones		Day's low 426-426 2	Latest Previous High/Low	Oct 27.15 26.67 27.17 26.45 Dec 27.67 27.21 27.70 27.05	publish this survey on: Monday 17 October 1988
y (English fored) £104 0y +0.5				See 4910 4914 4970 4905		opening day of the second
(US No. 3 yellow) £128g 4 (US Dank Northern) £120x	GRAPIS S/tonne	WOOL			Mar 28.46 27.75 28.48 27.75 May 28.65 25.00 28.70 27.90 Jul 28.40 27.75 28.50 27.70	UGANO INTERNATIONAL
	Wheat Close Provious High/Low	Australian wool prices held fairly atouly this week but with the currency rate for the	Coine \$ price E equivalent	Ucz 43/15 4368 4410 4485 Nov 4450 4477 4480 4475 Dec 4525 4510 4575 4510 Jan 4365 4578 4515 4585 Feb 4525 4598 4570 4525 Mar 4375 4581 4420 4575 Apr 4270 4285 4590 4570	Jul 28.40 27.75 28.50 27.70	BANKING SYMPOSIUM
ar (Oct)♥ 77.250 -0.60	Sep 108.35 107.55 108.70 108.35	Australian dollar a little below its recent	Mapietadi 442-447 263-266 Britannia 442-447 263-266	Dec 4525 4\$10 4675 4510 Jan 4585 4578 4615 4555 Feb 4525 4578 4615 4555 Mar 4575 4581 4420 4625 Mar 4575 4581 4420 4675	Aug 27.85 27.32 28.00 27.85	For a full editorial synopsis and
or (Nov) 1 77.75p -0.50 or (KL RSS No 1 Sep) 334,5m	Nov 110.25 109.75 110.40 110.00 Jan 113.00 112.85 113.00 112.65	peak in steriing terms Bradford price adjustments still tend to be reductions. The	US Engle 442-447 263-266	Mar 4375 4361 4420 4375 -		advertisement details, ploase contact: Genter Breitling
nut oil (Philippines) \$ \$570w +6	Mar 115.50 115.00 175.70 115.25	UK wooi textile situation, at least in earlier	Angel 439-444 2001-20314 Knugerrand 428-431 254-256	Apr 4270 4295 4280 4270 May 4150 4181 4210 4190		FINANCIAL TIMES
Oll (Malaysian) \$ \$440s	May 118.10 117.65 118.10 117.90	processing, is also depressed by last weeks rise in interest rates and prospects of more	New Sov. 101-102 60-60 k	Jun 4115 4131 4110 4116		- (SWITZERLAND) LTD 15, rue du Cendrier
(Philippines)5 \$355x boans (US) \$208y		to come. The stockholding burden is increased at a time when there is already	Old Sov. 101-102-2 60-61 Noble Plat 542.3-648.8 321.25-325	COCOA 13 tonnes Stonnes -		1201 GENEVA
A Index 58.550 + 0.70	Seriey Close Previous High/Low	caution in looking ahead. Activity is		Close Previous High/Low	REUTERS (Bage: September 18 1931 = 100)	Telephone: 022/311 604
ops (64s Super) 630p	Sep 101.75 101.85 102.00 101.75 Nov 105.00 104.80 105.10 104.80	excellent in Worsted weaving but not up to capacity on the woollen side, and shorter			Aug 30 . Aug 29 mush ago yr ago	Or Patricia Sarridae
nne unkes otherwise stated, p-pence/kg. s/lb, r-ringgl/kg, y-Sep, q-Oct, x-Aug/Sep.	Jan 107.95 107.70 108.10 107.75	order books represent an increasing tryest	Silver fix p/fins oz US cts equily	Sep 1220 1280 1280 1220 "Dec 1258 1312 1310 1225 Mar 1254 1303 1809 1251	1887.5 1887.7 1639.5	FINANCIAL TIMES LTD
Oci. w-Oci/Nov. tMeei Commission ever-	Mar 110.30 110.15 110.50 110.30 May 112.10 112.05 112.10	to combing and spinning activity. Bradford too quotations are well down for liner	Spot 384.10 645.80	Mary 1255 1316 1320 1267	DOW JONES (Base: Dec. 31 1974 = 100)	Bracken House
itstock prices. * change from a week ago. don physical market. §CIF Rotterdam. 🐥	Turnover: Wheat \$54 (184) , Barlay \$2 (88)	merinos compared with last week with 70s	5 months 396.00 639.95 6 months 407.75 675.15	Jul 1294 1338 1330 1250	Spot. 182.63 132.73 130.25 127.50	10 Cannoe Street
	Turnover lots of 100 tonnes.	super around \$250 and 64s at 625p per kg.	12 months 432.15 707.30	Sep 1315 1360 1350 1320 Dec 1353 1396 1404 1345	Futures 125.86 185.70 ' 138.25 130.37	Telephone: 248 8000 Ext 3426

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MBFRIN

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# WORLD STOCK MARKETS

ry	AUSTRIA         OTENANY (continued)           Angust 31         Sch         + or         -         Angust 31         Dm.         + or           Creikasstak         2,000         + or         -         Angust 33         Dm.         + or           Creikasstak         2,000         + or         -         Angust 33         Dm.         + or           August 31         -         -         -         433         + or         -         Angust 33         Dm.         + or           Internetal         -         -         -         433         + or         -         Angust 33         Dm.         + or         -         2         - <t< th=""><th>METHERLANDS (continue)         SWEDER (continue)           August 31         Fiz.         + or           Hel Mits Bast         105,00         -2.3         Sure ExcMide           Hel Mits Bast         105,00         -2.3         Sure ExcMide         254,00           Hel Mits Bast         105,00         -2.3         Sure ExcMide         264         +4           Matter (mathematic science)         223,00         +2.5         SUC 8 Frage         264         +3           Drannen (Vac)        </th><th>CANADA</th></t<>	METHERLANDS (continue)         SWEDER (continue)           August 31         Fiz.         + or           Hel Mits Bast         105,00         -2.3         Sure ExcMide           Hel Mits Bast         105,00         -2.3         Sure ExcMide         254,00           Hel Mits Bast         105,00         -2.3         Sure ExcMide         264         +4           Matter (mathematic science)         223,00         +2.5         SUC 8 Frage         264         +3           Drannen (Vac)	CANADA
Villages to villages to villages to viry of can viry of can viry of can viry food by viry food by viry food by timports of ba timports of ba timpor	Lardietrank     1383     142     BK     70     10     Hortzes     197     143       Pertosoer     155     110     Boagrain     230     14     Hortzes     197     143       Veitrahr     125     12     Boagrain     240     144     142     142       Veitrahr     125     147     Boagrain     240     144     142     145       Veitrahr     142     148     145     145     145     145       RELIAIUM/LUXEREPOLINES     Carrefor     250     77     Kocctar Write     101     144       Augest 31     Fri.     + sr     155     145     1464     156     146       Augest 31     Fri.     + sr     156     147     144     144     156       Augest 31     Fri.     + sr     156     147     144     144     156     1-7       Bart toti, a Lan     13,2000	Ned Mile Bask         1155.00         22.3         Star EstMa         125         43           Ned Mile Sask         223.00         42.5         Str. Spectra 1, 4 Free         254         43           Obs. Fristen         223.00         42.5         Str. Spectra 1, 4 Free         251         43           Pathood         127.0         40.6         Str. Spectra 1, 6 Free         351         44           Pathood         125.0         40.7         40.1         50%         1252         40           Matter         32.6         40.2         40.1         50%         1252         410           Matter         32.0         42.1         50%         1252         410           Matter         32.70         40.1         50%         1275         50           Matter         1250.0         40.1         50%         1276         50           Will Stark         1250.0         40.7         70%         70%         1276         50           Will Stark         1250.0         40.7         70%         70%         1276         1276         1276           Matter         1250.0         40.7         70%         70%         119.00         1276         <	
nkful fer fe 1 = full dat fe word war sy in save usta	JAPAN           August 31         Yes         + or         August 31         Yes         + or           Allsometo         2.980         1200         Jatco         11,860         1-40         Nigoos Li Metal         7.79         -4           Allsometo         1.730         210         Jatco         12,860         1-40         Nigoos Li Metal         7.97         -4           Alss Sterific         1.740         -40         Lagas         12,860         10         Nigoos Li Metal         7.97         -4           Anste         1.740         -40         Kalesa         1.270         120         420         Nigoos Cil Metal         1.920         420         Nigoos Cil Metal         1.920         420         1.900         411         1.900         1.900         1.900         1.900         1.900         -10         Nigoos Cil Metal         1.900         -10         Nigoos Cil Metal         1.900         -10         Nigoos Cil Metal         1.100         -10         Nigoos Cil Metal         1.100         -10         Nigoos Cil Metal         1.900         -10         Nigoos Cil Metal         668         +6         Nigoos Cil Metal         1.900         -20         Nigoos Cil Metal         1.900         -20	AUSTRALLA (continued)           Angent 31         Van         + or         Angent 31         Aust5         + or         -           Tellin         770          Levi Laise         338         -0.02           Tellin         840          Levi Laise         13.485         +0.1           Tellin Giff         840          Levi Laise         13.485         +0.1           Tas heavyo Kyo         1.750         -50         Mijiii         1.90         -0.99           Toto          25.0100         -100         Maxwa Michies         6.40         +0.1           Toto          2.320         -00         Maxwa Michies         6.40         -0.02           Total Carboo         590          Month Bitch Hilf         0.80         -0.05           Takio Martne         1.940         -20         Marth Bitch Hilf         0.28         -0.07	OVER-THE-COUNTER Nasdaq national market, 2pm prices August 31
hewan mage bbens n hewan War former 6 contract 6	Andre Dorschred         1260         200         410         Constal field Fuer         1200         170 <th< td=""><td>Line Decision         2500         2500         2500         1000           Tricko Becchan         2,500         -20         Peace Partiell         2,23         4.09           Tricko Becchan         3,520         -20         Peace Partiell         2,23         4.09           Tokyo Bare         2,520         -40         Peace Partiell         2,35         -40           Tokyo Bare         1,520         -40         Peace Partiell         2,35         -40,22           Tokyo Bare         1,500         -40         Statts         -40,22         -40,22           Tokyo Bare         1,500         -40         Tokyo Bare         -40,22         -40,22           Tokyo Bare         1,000         -70         Woodele Partiell         1,13         -40,22           Tokyo Bare         2,000         -20         Woodele Partiell         1,13         -40,22           Tokyo Bare         2,000         -20         Woodele Partiell         1,13         -40,22           Tokyo Bare         2,000         -20         Woodele Partiell         1,13         -00,23           Tokyo Bare         2,000         -20         -20         -20         -20           Tokyo Bare         2,000</td><td>Inst. No.       No.</td></th<>	Line Decision         2500         2500         2500         1000           Tricko Becchan         2,500         -20         Peace Partiell         2,23         4.09           Tricko Becchan         3,520         -20         Peace Partiell         2,23         4.09           Tokyo Bare         2,520         -40         Peace Partiell         2,35         -40           Tokyo Bare         1,520         -40         Peace Partiell         2,35         -40,22           Tokyo Bare         1,500         -40         Statts         -40,22         -40,22           Tokyo Bare         1,500         -40         Tokyo Bare         -40,22         -40,22           Tokyo Bare         1,000         -70         Woodele Partiell         1,13         -40,22           Tokyo Bare         2,000         -20         Woodele Partiell         1,13         -40,22           Tokyo Bare         2,000         -20         Woodele Partiell         1,13         -40,22           Tokyo Bare         2,000         -20         Woodele Partiell         1,13         -00,23           Tokyo Bare         2,000         -20         -20         -20         -20           Tokyo Bare         2,000	Inst. No.       No.
	Aug         Aug <td>31         30         29         26         High         Low           1570.5         1580.5         1569.8         1595.6         1657.8         6980         1170.7         10/22           90         197.8         197.8         197.6         197.5         199.5         947.8         6980         1170.7         10/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         218.87         218.53         219.15         220.26         227.96         130.66         4410           91         198.2         718.2         721.8         732.1         777.1         851.3         120.71         851.3         120.71         851.3         129.11         127.7         851.3         129.11         127.7         129.11</td> <td>Brussels — 1000, 1010, 1020, 1030, 1060, 1060, 1041, 1048, 1049, 1050, 1060, 1020, 1100, 1110, 1120, 1130, 1140, 1150, 1160, 1170, 1180, 1190, 1200, 1210, 1310, 1410, 1420, 1900, 1920, 1931, 1940, 1950, 1960, 1970, 1980, 1981, 1990.       Travelling on Business in Italy?         Antwerp — 2000, 2008, 2018, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2100, 2110, 2120, 2130, 2153, 2180, 2200, 2210, 2230, 2232, 2241, 2600, 2610, 2700, 2710.       Enjoy reading your complimentary copy of the Financial Times when you're staying in Milano at the Diana Majestic, Duca di Milano, Hotel Excellsior Gallia, Hilton Hotel, Hotel Michelangelo, Hotel Palace, Hotel Principe di Savoia         Liege — 4000, 4020, 4200, 4400.       Leuven — 3000, 3030, 3044, 2072.         Kortrijk — 8500, 8510, 8550, 8640.       Brugge — 8000, 8200.         Ø Brussels (02) 513 2816       And ask for more details.         FINANCIAL TIMES       FINANCIAL TIMES         Burope's Business Newspaper.       FINANCIAL TIMES</td>	31         30         29         26         High         Low           1570.5         1580.5         1569.8         1595.6         1657.8         6980         1170.7         10/22           90         197.8         197.8         197.6         197.5         199.5         947.8         6980         1170.7         10/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         198.8         197.8         197.6         197.5         199.70         153.38         0.1/22           90         218.87         218.53         219.15         220.26         227.96         130.66         4410           91         198.2         718.2         721.8         732.1         777.1         851.3         120.71         851.3         120.71         851.3         129.11         127.7         851.3         129.11         127.7         129.11	Brussels — 1000, 1010, 1020, 1030, 1060, 1060, 1041, 1048, 1049, 1050, 1060, 1020, 1100, 1110, 1120, 1130, 1140, 1150, 1160, 1170, 1180, 1190, 1200, 1210, 1310, 1410, 1420, 1900, 1920, 1931, 1940, 1950, 1960, 1970, 1980, 1981, 1990.       Travelling on Business in Italy?         Antwerp — 2000, 2008, 2018, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2100, 2110, 2120, 2130, 2153, 2180, 2200, 2210, 2230, 2232, 2241, 2600, 2610, 2700, 2710.       Enjoy reading your complimentary copy of the Financial Times when you're staying in Milano at the Diana Majestic, Duca di Milano, Hotel Excellsior Gallia, Hilton Hotel, Hotel Michelangelo, Hotel Palace, Hotel Principe di Savoia         Liege — 4000, 4020, 4200, 4400.       Leuven — 3000, 3030, 3044, 2072.         Kortrijk — 8500, 8510, 8550, 8640.       Brugge — 8000, 8200.         Ø Brussels (02) 513 2816       And ask for more details.         FINANCIAL TIMES       FINANCIAL TIMES         Burope's Business Newspaper.       FINANCIAL TIMES

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Φ Φ 34

## NEW YORK STOCK EXCHANGE COMPOSITE PRICES

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

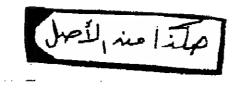
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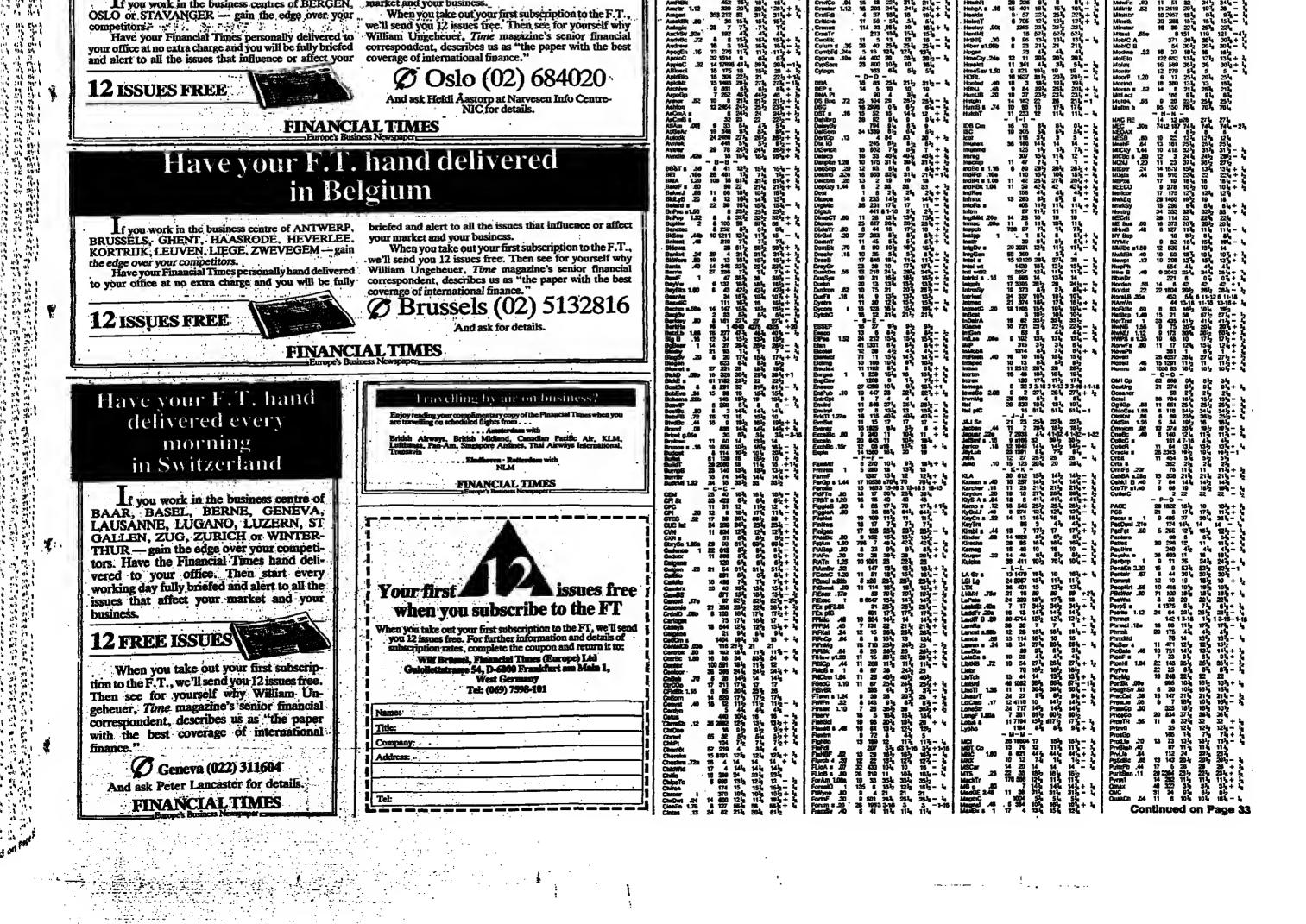
FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988 NYSE COMPOSITE PRICES

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# AMEX COMPOSITE PRICES

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#### Φ 36 : WORLD STOCK MARKETS

#### AMERICA

# See-saw session ends with slight decline by equities

#### Wall Street

ACTIVITY in the equities market remained subdued in a ket remained subbudd in a fairly narrow range, while bonds at first reacted favoura-bly to the rise in the dollar against the Japanese yen and then slipped back, writes Janet Bush in New York. The Dow Jones Industrial Average ended a lacklustre day down 5 58 points at 2,031,65

down 6.58 points at 2,031.65. Trading volume improved over the low levels of the past 10 days, with some 130m shares changing hands.

Equities had initially reacted positively to the higher dollar and early firmness in hond prices and gained 12 points at the opening. During the rest of the morning, however, the Dow drifted gradually lower and was down more than 10 points by early afternoon before rallying weakly.

Bonds also enjoyed a see-saw day. After an early rise of as much a % point, bonds gave up half their gains hy midsession only to recover by the close. The Treasury long bond rose  $\frac{1}{3}$ point on the day, to yield 9.303 per cent. This compares with a per cent. This compares with a peak last week of just over 9.5 per cent.

The bond market has performed fairly well since last week's round of co-ordinated interest rate rises in Europe, mostly because of the ability of the dollar to bounce hack from its lows. The US currency has made up a significant part of the ground it had lost against

#### ASIA PACIFIC

the West German D-Mark since B F Goodrich rose a smart \$2 to \$53% amid rumours that Sir James Goldsmith or Hanson the Bundesbank announced an increase in its discount rate last Thursday. Yesterday, it was the turn of Trust might be preparing a takeover hid.

the Japanese yen to come under pressure against the dol-lar. By the close, the dollar was quoted at Y136.55, slightly below an earlier high of Y136.80 but well above its ses-sion low of Y134.80. on the American Stock Exchange after Gartner Securi-ties and S G Warburg lowered their investment ratings on the stock and Warburg lowered its estimates of the company's 1998 earnings

1988 and 1989 earnings. In over the counter trading. The yen has come under pressure because of repeated assertions by Japanese officials Wilson Foods edged \$% lower to \$12% after Doskocil lowered that they do not intend to raise the Japanese discount rate to the price of its tender offer for match the rate increases in Europe last week. Officials said the company to \$12.25 a share from \$12.50 and also extended the offer to September 15. Digital Communications Associates dropped \$2% to in Tokyo yesterday that it was part of the Bank of Japan's contribution to international sterday that it was policy co-ordination not to

\$25%. The company said that it expected net income for the push up the discount rate. first quarter ending September 30 to be below the \$11.3m Strength in the dollar against the yen is particularly healthy for US bonds because of substantial Japanese investposted in the fourth quarter ended June 30. Blue chips were mixed. Interment in Treasuries.

Domestically, the main focus remains Friday's release of the August unemployment figures. These are expected to show an unchanged unemployment rate of 5.4 per cent and a rise in the non-farm payroll of around 25.000.

Among featured stocks yes-terday was Macmillan which dropped \$1% to \$82 after the company said it had provided data about itself and its information service group to Maxwell Communications, which has launched an \$80-a share

national Business Machines dropped \$1% to \$111%, General Motors was nnchanged at \$73%, Canada

AFTER 8 lower opening, shares in Toronto moved higher in the afternoon to close with a small gain in light trad.<sup>4</sup>

Toronto's composite index finished up 11.7 at 3,285.8 with declines barely ahead of advances hy 341 to 398.

Falling yen drives Nikkei downwards in low volume

offer for the group.

#### Tokyo

A WEAKER yen added further discouragement to equities yesterday, pushing share prices down in thin volume, writes Michiyo Nakamoto in Tokyo.

Even the announcement of Nippon Mining's \$1.1hn agreed takeover bid for the US electronic materials group, Gould, had little impact. Nippon Min-ing rose Y28 to Y635 early in the day and was the fifth most active share with 13.8m traded, nt it climn

Furnkawa, an industrial about higher interest rates and machinery maker and non-ferrous metals company, was the rising inflation dominated tradthird most heavily traded issue with 19,92m shares exchanged. ing and the index fell. The All Ordinaries index lost It rose Y36 to a record high of 10 to 1,570.5. Total turnover Y664 in morning trading, but then closed Y10 down at Y618

was again light - only 88.54m shares, worth A\$125.05m. Most leading industrials were down, with only Mayne Nickless, up 12 cents at A\$6.82, on profit-taking, Rumours had been spreading that Furukawa would move its manufacturing out of its Osaka plant and redeand Elders Resources, 10 cents better at A\$2.95, finding any support at the lower levels. velop the site. Citizen Wetch was another

SINGAPORE survived a heavily traded issue, with 9.1m large fall in Tokyo, a small drop on Wall Street and late shares dealt. It moved up Y31

Small investors were chiefly

#### Frenzied activity is mere memory in Israel for the minority of shares not in the possession of the con-If was not always thus. Dur-

ing 1982 the exchange experi-enced a spectacular frenzy of

by the banks, was equally spec-tacular: the all-share General

index plunged 69 per cent in dollar terms and effective con-

trol of the country's major banks was taken by the Gov-

By certain criteria, the mod-

ernme

o say the Tel Aviv Stock Exchange is in the dol-drums would belittle the travails of those sailors who could often remain becaimed for weeks at a

**FINANCIAL TIMES** 

stretch. With key national elections due in two months' time and the usual midsummer torpor

MARKET PROFILE Amdahl slumped \$4% to \$40



Tel Aviv

having well and truly settled in, there is little sign of inves-tor activity at present in Israel, "The market is in trouble, It's dead right now," said Mr David Tobias, securities man-ager at the Finance and Trade Bank, pointing to the low daily incompared on the low daily turnover. On one recent day, the equity market recorded only shekels 6.2m (\$3.8m) worth of transactions, less than a third of the daily sver-age at 1987's end. The parallel bond market contributed another shekels 4.8m that day.

#### EUROPE

LACK of direction characterised trading in Europe yesterday as anxiety over interest rate rises and the

over interest rate rises and the strong dollar kept advances to a minimum and volumes low, writes Our Markets Staff. PARIS moved higher throughout the session to end just off the day's highs but vol-ume remained very thin. The market was buoyed by confir-mation from Finance Minister Pierre Bérégovoy that the Pierre Bérégovoy that the economy would grow by at ever, international concern least 3 per cent this year and by news that the 1989 budget would contain tax cuts of between FFr10bn and FFr12bn. The OMF 50 index gained 1.97 to 347.26 despite worries over the pressure on the franc and the possibility of further interest rate rises. Some US buying was reported, but turn-

"Ons feature was Perrier

which rose FFr3 to FFr933 on 107,575 shares traded. Press

reports that France would cut

the rate of tax on reinvested

company profits helped Per-rier, which should benefit from

such a move, said one trader. The weakness of the franc was

over was put at little more than Tuesday's FFr518m and one or two orders were thus enough to produce significant moves. The CAC General index, based on opening prices, added 0.1 to 347.7.

of the securities repurchase pact tender today all took their toll on sentiment.

after confirming a 2 per cent rise in first half group profits to DM310m.

Bonds were undermined by a weaker D-Mark and profit-tak-ing. The yield on the latest 6% 10-year federal bond edged up to 6.78 per cent from 6.77. AMSTERDAM improved only slightly in thin trading despite a round of promising company results. Dealers were

reported to be keeping their heads down until Friday when the latest US economic data the unemployment figures are released. By the close the CBS all-share index was 1.1 higher at 94.6.

The day was dominated by three stocks. Insurance giant Aegon rose FI 1.1 to FI 81 prior to revealing a 9 per cent rise in first half profits to F1 178m. Elsevier improved 70 cents to

enced a spectacular fremzy of buying comparable to the South See Bubble. In US dollar terms, industry shares rose on average by 158 per cent and insurance companies tripled their market capitalization. The crash of October 1983, led. by the banks was awally spec-

in the possession of the c trolling family or company.

trolling family or company. A crippling handicap for the market's growth is the severe restrictions placed by the Gov-ernment on the allocation of financial institutions' capital. Pension funds, for example, which rake in billions of shek-ele a ware from hoffy constributed els a year from hefty contribu-tions, are only permitted to invest 7 per cent of disposable funds in the equity market.

The limitations are gradually being eased by the Bank of Israel and the Treasury, anx-ions to prepare the ground for a series of planned privatisa-tions of state-owned enterern, well-equipped bourse - its building was completed just prises. At present, however the market would probably be incapable of handling even the 20 per cent share of the Istael Chemicals group which First Boston, the US investment bank advising the Govern-ment, has recommended for floging in Israel

floating in Israel. The trading system is elec-tronic, with trades broadcast at specified hours on members' computer screens. Unmatched bargains are bronght to the floor of the exchange where the official dealer invites offers through a paper-based system. Foreigners may buy and sell listed shares, other than banks, without restriction. Withholding tax is generally 25 per cent, the shekel as part of a package of overdue economic measures but majority foreign-owned

STOCK MARKET FACT CHART TEL AVIV

Thursday September 1 1988

Market capitalisation: \$11.03bn (\$12.24bn incl bonds) (\$1 = shekel 1.64, £1 = shekel 2.62) Number of shares listed: 271 Top 10 stocks, percentage of market: 13.2% (80.1% including

dollar-linked bank shares controlled by Treasury) Trading hours: official - 10.30 am-3.30 pm Sun-Thurs: after

- no time limit hours Average daily turnover, 1968: \$5.9m (\$9.78m Including bank

shares as above) Main Indices: Tei Aviv General (all shares); Variable Index (top 30)

Current level of General Index: 95.77 (30/8); 1968 high: 100,65 (7/1); 1968 low: 90.29 (9/2) Settlement: one day after transaction

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companies enjoy a reduction. However, overseas interest in Tel Aviv is minimal. In part this is due to the market's volatility and small size, and in part to corporate fears of the Arab boycott of Israel. US Arab boycott of Israel. US money, mostly Jewish, was very active during 1981 and 1982, but pulled out after the 1983 crash, never to return. Since its last peak in April 1987, the Tel Aviv General Index has steadily declined, accompanied by a diminution of trading volume. Most major investors are on the sidelines, anticineting a devaluation of

from 99% per cent of par to 99% per cent. The Government

also agreed to cut the size of

anticipating a devaluation of

under the new government Nor are fundamental.cons erations of corporate health particularly bright. The difficulties internationally known companies such as Koor and Solel Boneh are facing would be enough to deter even the most committed Zionists from having a dabble on the market at the moment.

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Andrew Whitley

This is the last in the series of market profiles. Tomorrow we publish a full list of the marwhich each profile appeared.

Paris lifted by news on economy and taxes

London CONCERN about sterling and VW fell DM1.80 to DM246.50

interest rates overcame attempts at an early rally in London. The FT-SE 100 index closed 1.2 down at 1,753.6.

Although international blue chips were boosted by a firm dollar, the market remained nervous, pending tomorrow's US anemployment figures.

<u>F1 57 on news that interim</u> profits had risen 25 per cent to F1 101.8m, while fellow-publisher Wolters Kluwer dropped 40 cents to Fl 139.30 after announcing profits of Fl 36m for the first half of the year.

STOCKHOLM rose for the second day in succession as the issue to improve liquidity. The agreement stimulated demand for several major domestic investors ignored pes-simistic reports from overseas markets. By the close the Affärsvärlden General Stock stocks, notably electricals such as intercom – up BFr5 to BFr3,160 – and Ebes – BFr35 better at BFr4,260. Tractebel Index had risen 4.4 to 857.7 as shares worth SKr188m changed again featured in speculative

buying, rising BFr50 to BFr6,140 on good turnover. MILAN picked up from an hands. Volume is likely to remain light, say dealers, until the country's general elections on September 18 have passed. The feature of the day was Volvo, which jumped SKr9 to early setback on intitutional buying to end slightly lower in better volume than Tuesday's provisional L81bn. The Comit

SKr323 as dealers digested Tuesday's profit figures, which at SKr3.8bn were well above most analysts' expectations. BRUSSELS moved ahead in ndex fell 4.18 to 519.65. Blue chips were worst hit in the nervous early selling, with Fiat ending L111 down at L9,200, and Generali L360 lower quiet trading and the cash index added 11.5 points to 4,879.2. The day was dominated at L91,250. Both recovered after by news that the Government had agreed, under pressure from the banks, to drop the price of its latest bond issue ZURICH saw little excitement and shares moved lower

despite a late run as investors went in search of bargains at the lower levels. The Crédit Suisse Index closed down 1.7 on 469.1.

Aluminium producer Alu-suisse eased SFr6 to SFr840 prior to announcing it will pay a dividend on its results this year, the first time since 1984. The announcement came after Alusuisse revealed 8 SF350m rise in half-yearly group sales.

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ity in Israel, most bids being

before the 1983 crash - com-pares favourably with many around the world. By listed comparies, Tel Aviv, with 271, is comparable to Kuala Lum-pur or Mexico City; by equity and bond market capitalization of more than \$120n, it ranks on a par with Oslo. And in terms of new issues in 1987, Tel Aviv

came 24th of the international federation of bourses' 35 mem-

Such league tables, however, can be deceptive. In reality,

can be deceptive. In reality, less than 25 per cent of the market capitalization is freely tradeable, and many of those 271 listed companies are tid-dlers by any standards. There is little genuine takeover activ-

only Y1 higher at Y608.

For several days, equities have been suffering from investors' anxiety over the possibility of higher interest rates in Japan, as well as a marked lack of institutional participation prior to the end of the fiscal year for financial firms on September 30.

The Nikkei average, which had finished higher on Tuesday, failed to retain its modest strength and closed 145.70' down at 27,365.95. The day's high was 27,613.56 and the low 27.310.45.

Volume at 414m shares was even thinner than Tuesday's 451m shares.

In London, Japanese shares dropped sharply, with the ISE/ Nikkei 50 index losing 24.09 to 1.763.15. Japanese equity warrants also fell "quite dramatically." one trader said, amid worries over the speed with which the yen has been weakening.

Shares turned down in Tokyo mainly on small-lot trading. Analysts said the recent pattern of share prices rising only to be sold for quick profits reflects a lack of com-mitment to the market.

No sectors showed any sig-nificant strength and only some speculative issues attracted buying interest.

ter earnings forecasts. Mitsubishi Oil was the most profit-taking to move upwards.

The Straits Times industrial index added 16.38 to 1.036.59. heavily traded issue at 30.87m shares, advancing Y10 to Y1,140 following persistent runours that Saudi Arabia was behind the rises, as institutions avoided opening new

shares, lost Y40 to Y1,650.

Roundup

positions hefore Saturday's interested in taking 8 stake. The bond market recovered eneral election. HONG KONG improved modestly after falling in mornslightly in the face of contining trading. Buying increased with the weakening of the yen ned bearish sentiment and declines in Naw York and against the dollar and the yield Tokyo. The Hang Seng index closed 4.25 higher at 2,443.80. Turnover, at HK\$391.77m, was on the benchmark 105th gov-ernment bond finished at 5.360 per cent, unchanged from Tuesday's close. Trading in Osaka was again well down on Tuesday's figure.

MANILA saw moderate tradlacklustre and volume fell furing activity as dealers reacted positively to the return of Presther from Tuesday's 70.58m shares to 40.09m. The OSE ident Corazon Aquino from a average lost 36.52 to 26,408.45. three-day state visit to Brunel. Nankai Railways, the most heavily traded issue with 3.22m The Manila composite index closed 10.30 better at 786.15.

TAIWAN recovered well from its recent decline as demand for industrial blue chips, banks and construction stocks pushed the weighted THE DROP in Tokyo unsettled Australia, but failed to discourindex up 207.10 to 7,680.48.

#### SOUTH AFRICA

age investors in Singapore or Hong Kong. Manila was in pos-THE ABSENCE of significant news left Johannesburg driftitive frame of mind and Taiwan recovered from its ing aimlessly and the market closed little changed. In the gold sector, Kloof gained 25 cents to R30.50, while Driefontein eased 25

recent depressed trend. AUSTRALIA saw very light trading as dealers looked overseas for inspiration. With for-eign markets lacking direction cents to RS1.75. and Tokyo sharply down, bowalso helping exporters such as Perrier, while the company is still the subject of bid rumours, he added. Hachette, the country's biggest communications group, added FFr4 to FFr234 after announcing it would huy a majority stake in Salvat, a Spanish publisher. FRANKFURT ended little

changed after early gains evap-orated in a lack of interest towards the close. Volume crept up to DM1.86bn from Tuesday's DM1.6bn, hnt the DAX real time index ended 0.17 off at 1,165.36. The FAZ index at midsession, however, showed a rise of 2.36 to 484.81. The market initially took

some comfort from signs of an easing of pressure on interest rates when the Bundesbank set the fixed-rate tranche of the weekly securities repurchase pact at an unchanged 4.25 per cent. Bnt a higher dollar, a weaker bond market and ner vousness over the final terms

#### **FT-ACTUARIES WORLD INDICES**

Jointly compiled by the Financial Times, Goldman, Sachs & Co., and Wood Mackenzie & Co. Ltd., in conjunction with the Institute of Actuarles and the Faculty of Actuaries

NATIONAL ANO REGIONAL MARKETS	WEDNESDAY AUGUST 31 1988				TUESI	DAY AUGUST	30 1988	DOLLAR INDEX			
Figures in parentheses show number of stocks per grouping	US Dollar )ndex	Day's Change %	Pound Ster)ing Index	Local Currency Index	Gross Ohy. Yield	US Dollar Index	Pound Sterling Index	Local Currency Index	1988 High	1988 Low	Year ago (approz)
Australia (87) Australia (87) Austria (16) Belgium (63) Canada (128) Denmark (39) Finiand (26) France (129) West Germany (100) Hong Kong (46) Ireland (18) Ireland (18) Ireland (18) Ireland (18) Malaysia (36) Mexico (13) Netherland (38) Netherland (38) Netwe Zealand (20) Norway (25) Singapore (26) South A(rica (60) Spain (43) Sweden (35) Switzerland (55) United Kingdom (324) USA (580)	117.67 120.54 116.94 89.66 74.29 99.81 126.92 70.16 155.11	\$	124.10 76.71 103.59 106.13 102.95 78.93 465.40 87.87 111.74 136.56 118.25 133.55 88.55 64.41 123.33 98.57 104.41 123.33 98.57 104.64 123.33 98.57 104.64 123.33 98.57 104.64 123.33 98.57 104.64 123.33 98.57 104.64 123.33 98.57 104.64 123.33 98.57 104.64 123.59 106.15 105.15 1	18,55 84,94 105,64 105,64 105,75 105,77 105,	3,246,155,257 3,486,155,257 2,455,257 2,455,257 2,455,257 2,447,188 2,4943,557 2,447,188 2,4943,557 2,447,188 2,4943,557 2,457	144.37 86.52 111.18 117.52 121.02 121.02 121.02 99.24 99.24 99.24 99.24 99.24 99.24 116.88 99.24 99.24 127.98 127.98 123.04 158.65 100.23 109.44 111.99 141.24 111.99 141.24 111.94 175.30 123.56	126.62 75.58 103.06 105.14 102.51 102.51 102.51 102.51 102.51 102.51 102.51 102.51 102.51 102.51 102.51 102.51 102.55 112.244 103.13 116.68 103.04 100.04 10	119,26 84.01 109,26 105.39 118.99 108.83 89,53 72.09 99,78 125,80 99,78 125,80 99,78 125,80 99,78 125,80 99,78 125,80 134,78 133,10 96,32 102,49 110,34 86,66 132,57 107,30	152 31 98.18 139.89 128.91 139.55 99.62 80.79 111.86 144.25 81.74 177.27 154.17 156.17 180.07 110.66 132.23 135.89 135.89 135.89 135.89 144.47 1255 66.75 141.18	91.16 83.72 99.14 107.06 111.42 106.78 72.77 67.78 84.90 104.60 104.60 99.23 107.83 99.23 99.55 97.99 109.87 130.73 95.42 98.55 97.99 109.87 130.73 95.43 99.19	166.15 97.88 133.22 137.50 12.5 114.53 104.72 146.87 144.14 144.14 1451.91 173.08 371.20 128.12 173.24 161.20 128.65 108.95 108.95 131.41
Europe (1013) Pacific Basin (671) Euro-Pacific (1684) North America (708) Europe Ex. UK (689) Pacific Ex. Japan (215) World Ex. UK (2141) World Ex. UK (2141) World Ex. Japan (2405) World Ex. Japan (2405) The World Index (2465)	100.20 152.42 131.55 107.53 85.92 120.06 130.88 121.43 121.63 105.51	-0.4 -2.1 -0.4 -0.4 -1.5 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1 -1.1	88.22 134.19 115.81 94.66 75.64 105.70 115.22 106.91 106.91 106.91 106.93 92.89	93.77 131.84 116.67 106.90 84.79 106.91 116.11 113.39 113.09 102.28 112.91	3.88 0.76 1.72 3.69 3.20 4.11 1.79 2.21 2.41 3.78 2.43	100.62 155.71 133.68 107.83 86.30 120.31 132.92 123.02 123.02 105.86	88.25 136.55 117.24 94.57 75.69 105.52 116.57 107.80 107.89 92.84	93.70 132.73 117.19 107.20 84.66 107.08 116.60 113.87 113.52 102.44 113.34	110.82 172.26 147.53 113.29 92.99 128.27 146.49 131.77 132.39 112.43 132.38	97.01 130.81 120.36 99.78 80.27 87.51 120.26 111.77 113.26 100.00 113.37	127.27 152.19 142.30 131.74 111.96 155.71 142.73 136.97 138.00 131.79

Base values: Dec 31, 1986 -- 100; Finland: Dec 31, 1987 -- 115.037 (US \$ Index), 90,791 (Point Sterling) and 94.94 (Local) Deprint, The Financial Times, Goldman, Sacta & Co., Wood Mackenzie & Co., Ltd.1987

# Cathay Pacific Airways Limited 1988 Interim Results — Highlights

		Six months ended 30th June		Year ended 31st December
		1988 HK\$M	1987. HKSM	1987 HKSM
Tarnover	. '	6.947.1	5.305.3	11,708.7
Operating profit Net finance charges		1,658.2 418.2	1,226.2	.2,943.5 433.5
Net operating profit Share of profits of associated companies		1,240.0	1,053.9 33.6	2,510.0 70.9
Profit before taxation Taxation		1,285.4	1,087.5	2,580.9 450.3
Profit after texation Minority interest		1,029.0	835.7 6.9	2,130.6 14.s
Profit attributable to shareholders Dividend	• • •	1,021.3	828.8 214.8	2,115.8 802.0
Retained profit		763.5	614.0	1.313.8

Interim dividend

The directors of Cathay Pacific Airways Limited have today declared an interim dividend for 1988 of 9.00

per share. The interim dividend will be paid on 30th September 1988 to shareholders registered at the close of busin on 23rd September 1988; the share register will be closed from 16th September 1988 to 23rd September 1988, both dates inclusive.

Prospects

The growth in both air passenger and cargo markets, particularly within the Asian region, continues with little sign of abatement. Operating costs remain relatively stable and despite some recent strengthening in the United States dollar, and therefore the linked Hong Kong dollar, the Company continues to benefit from the relative strength of foreign currencies in which most of its revenues are earned. There is no immediate sign of any significant and adverse change to any of the factors which materially affect the Company's profitability and in these circumstances 1 again expect another good result for the year as a whole. The full interim report will be sent to all shareholders on 5th September 1988.





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The world's aerospace industries are now busier than ever. Rising costs have led to fewer

new civil and military programmes, but production runs are longer and the pattern of international collaboration increasingly complex. Michael Donne reports.

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

## **Further rise** in spending

forms continues to expand. Despite defence budget cuts

in some countries, military business continues to grow, while there is no end in sight to the growth in commercial. and uncertainties over specific projects, such as the UK's Hotol, is poised to expand dramatically.

In commercial aviation; it is estimated that spending overall will amount to more than \$700bn. Outlays on new jet transports up to the end of the regional airliners of various

THE WORLD'S aerospace estimated that outlays will be

aviation, and work on space ventures, despite some set-backs to the US programme backs to the US programme

11.11 2

4.7 -

century or early into the next kind's endeavour - techno will amount to some \$414bn, cal, economic, political with at least another \$50bn on sociological.

types, Some \$150bn is expected to be spent on new airports and another \$50bn on their equipment, and outlays of some \$50bm to equip the air traffic control system to cope with the

companies will congregate at around \$755bn, comprising next week'a Farnborough some \$550bn on new military International Air Show con-

Sabin on numericontrast incomes, military). It is also estimated that at least \$200bm will be spent on guided missiles, primarily for tactical combat use, a figure that may well be conservative. satellites for practical applications, such as communications. But despite current tendencant changes in procurement policies. The aim is to encour-

but despite current tandah-cies to carb budgets, and the problems encountered in the US space programme, spending on developing this new frontier will inevitably increase, cover-ing as if does all facets of manage greater competition for the available business and, it is hoped, achieve better value for money. This, in turn, is obliging many military manufacturers, again especially in the US, to spend considerably more of their own cash on competitive cal, economic, political and sociological. There are many who believe

antees of any returns.

that in the years to come space-spending will eventually rival, if not overtake, ontlays on commercial and military aviation. Included in all those figures

control system to cope with the are engines, accounting. for . The UK's own military pro-rising tide of traffic. The UK's own military pro-in the military field, it is third of the total (Rolls Royce - nificantly improved as a result and more cost effective manu-



is its maiden flight in Texas this autumn. The Osprey takes off vertically like a helicop normal aircraft for forward flight. It is expected to have widespread civil and military uses.

## SP

estimates that demand for commercial jet engines alone of the new Memorandum of Understanding with Sandi may amount to as much as \$200bn by the end of the cen-tury), together with a vast array of avionics (airborne electronics) and other systems Arabia earlier this summer for the long-term provision of a variety of military alternat and support facilities. The orders could amount in the long term and equipment of all kinds, to as much as \$15bn of new probably also accounting together for close to one third business for Britain. In the commercial field, the

of the overall total. Vast though the business may be, however, winning it is already becoming tougher. In vast array of airliner types across the whole range/payload spectrum has generated a fiercely competitive buyers' eriments, especially the US, are trimming defence budgets, with in some instances signifimarket among the airlines, which is affecting not only the sirframe and engine manufacturers but also financiers. The latter are themselves

becoming increasingly compet-itive in bidding for the busi-ness that is available. The individual performances of airliner types available are often so close that decisions on orders worth billions of dollars can be infinenced by the financing terms alone.

To meet this tougher business climate, aerospace manu-facturers are working harder ventures with which to bid for defence business, with no guarthan ever to cut costs (espe-A further spin-off from that cially by streamlining worksituation is greater concentra-tion on export sales. forces at all levels, including management), reduce develop-

facturing techniques. Conversely, they are also obliged to increase their research and development budgets to stay ahead in an era of ever-accelerating technological advance.

Apart from this problem of costs, probably the biggest sin-gle factor behind the intensification of aerospace competi-tion is that most of the civil and military aircraft and engine types likely to be needed through the remaining years of this century are either already committed to produc-tion moder development or tion, under development, or close to being committed.

This in turn means that many of the contracts for engines, avionics, components and systems of all kinds have been, or soon will be, awarded. Suppliers that have not yet won business on any of those ventures must face the fact that only a limited number of new programmes will now emerge – although each indi-vidually may well be a multi-billion dollar venture – and the competition to win some share of the available business will become even tongher. Companies failing to win con-tracts on those few ventures

will face a bleak future.

panies in the aerospace indus-try are establishing joint teams to bid for the contracts on offer. This is especially so, for example, for major military equipment contracts on the new European Fighter Air-craft, and in the commercial

arena on the new generation of Airbuses (the A-330 twin-en-gined high-density jet and A-340 four-engined long-range

jet), and the McDonnell Doug-las MD-11 long-range trijet. Because of rising development costs, another major trend is the emphasis on deriv-atives, whereby manufacturers use all their ingenuity to devise improvements in their products to meet increasingly sophisticated airline and military demands, without incur-ring the expense of entirely new types. Such derivatives are wel-

comed because they evolve more directly in response to market needs, and thus meet them more closely, as well as being cheaper to build and to

This situation is seen clearly in commercial aviation, where virtually every major aircraft on offer, from the Boeing 747 emerging from a possible Air-

One result is that many comlong-range Jumbo down to the small 100-sester jets such as the British Aerospace 146, is available in a variety of mod-

> These, together with the few new airliners now under development, such as the Airbus A330 and A340, will continue to satisfy most of the airlines' demands over the next decade or so.

Entirely new airliner ventures are likely to emerge only when radical technological innovations occur, offering sufficiently significant improvements in economic perfor-mance to justify both the expense of their development and their high initial purchase

prices. Examples of such possible new ventures include a sec-ond-generation supersonic airliner especially for trans-Pacific use; and development of a range of prop-fan powered airliners, starting with the McDonnell Douglas MD-91 100-seater and extending upwards through the entire range/payload spectrum as engine manufacturers expand their involvement in what are called "ultra high hy-pass" engines; and pos-sible new types of aircraft

**Continued on page 12** 

#### CONTENTS

Air transport Controlling airspace Airframe manufacturers Engina makare Regional airliners Airport growth **Business** avlation Airshios Space projects Hypersonic flight New materials Military alrcraft New ways of flying Missiles Avionics Manufacturing technology COUNTRIES REVIEWED: The US Soviet Union West Germany France 12 The UK 13 Italy The Netherlands Belgium Sweden 14 Spain tsrael 15 Canado Argentina Brazil 16 Indla 17 Indonesia China Japan 18 Australia South Africa 19 Helicopters 20

bus/McDonnell Douglas link. In the smaller regional air-liner field, already a crowded arena, there are possible new

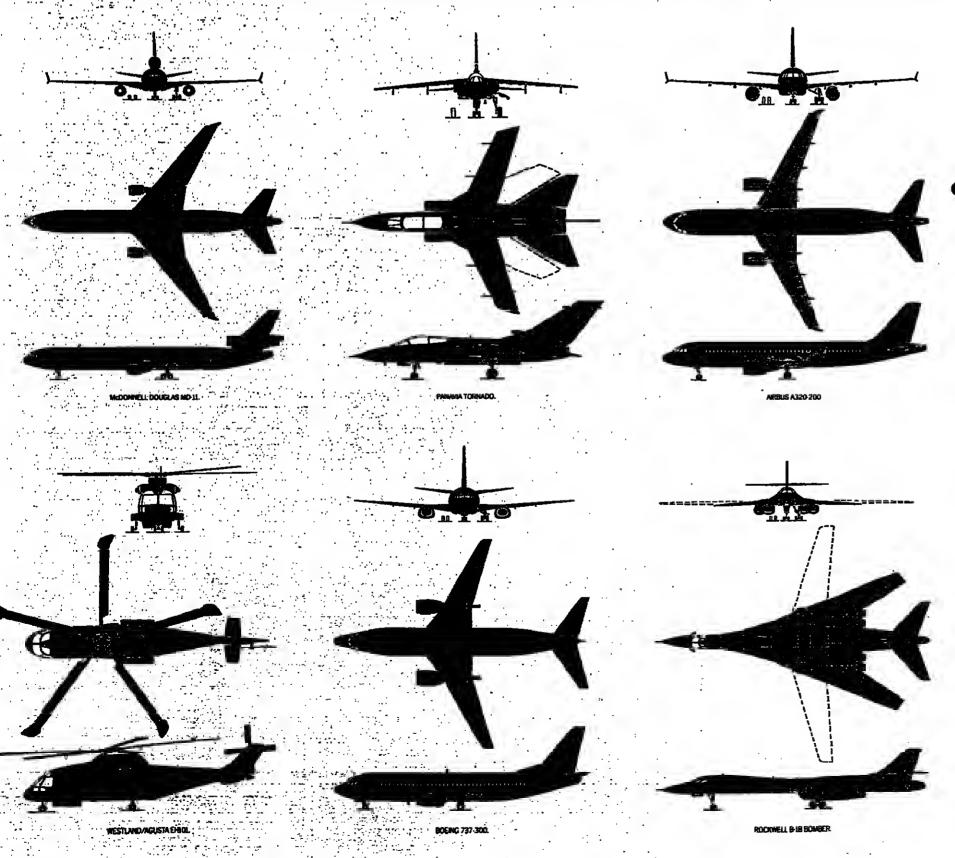
developments in jet-powered 40-60-scater aircraft, and in smaller prop-fan types of less than 100 seats. In the military field, deriva-

tives are also playing a major role, mainly in the form of improvements in engines and in avionics (alrborne electronics) systems, which can significantly improve aircraft performances without the expense of developing entirely new airframes.

Nevertheless, some major new military ventures are planned, such as the European Fighter (EFA), the Advanced Tactical Fighter (ATF) for the US Air Force, and the Advanced Tactical Aircraft (ATA) for the US Navy.

One common factor in most if not all of these programmes, actual and potential, is the growth of international collaboration. This has already become

well established in the world



## Westland. Even the ones we

didn't make couldn't have made it without us.

Over the years we have been privileged to contribute to some of the world's leading aircraft designs - with technical innovations as diverse as the aircraft they were destined for.

And the diversity of expertise we have destroys the myth that, when you mention Westland, you're only talking about helicopters.

You will find our composites providing flight-critical components for the McDonnell Douglas MD-11, as well as forming primary composite structures for the wing panels on the Boeing 737-300.

Westland designed and built the automatic wing-sweep actuators for the Panavia Tornado fighter.

Whilst the Rockwell Corporation has us to thank for the unique oxygen generating system onboard their B-1B bomber.

We've got 25 years' experience in space launch vehicle technology. (In fact, ours was the only British space launch vehicle ever to put a satellite in orbit.)

Not that any of this activity has distracted us from our pioneering work in helicopters.

A Westland Lynx holds the World Helicoptcr Speed Record. And the EH101, the result of our collaboration with Agusta of Italy, sets new standards in helicopter safety, performance and endurance.

So if you've always seen us as a specialist company, you would be right.

We just happen to specialise in rather more areas than most people think.

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**AEROSPACE 2** 

#### AIR TRANSPORT EXPANSION

## Rapid growth in traffic but declining revenue

10

THE WORLD air transport industry is currently enjoying an unprecedented period of rapid traffic growth, although the benefits are being reduced significantly by declining revenue vields

According to the Interna-tional Civil Aviation Organisation (the aviation technical agency of the UN), last year the world's airlines collectively carried just over 1bn passen-gers on scheduled services, or 9 per cent more than in 1986.

In some regions, and even individual countries, the growth rate was much higher, and all the forecasts are that this growth is likely to continue

In the first half of this year, the growth rate for scheduled internetional services by the 171 member-airlines of the International Air Transport Association was 13 per cent, but this is expected to drop back to between 5.5 and 6 per cent a year in 1989.

Even at that level, however, if sustained through the 1990s - which, short of a major economic downturn, most observ-ers expect to be the case - it means that the total number of passengers handled annually will have doubled by the end of this century.

This sustained traffic growth is already generating problems which in turn will become more severe as expansion continues.

One of the most serious of these is the decline in revenue yields, stemming from rising ainst a background of costs a increesing pressures for cheaper fares, in turn stimnlated by the intensification of

competition. The latter is itself due largely to the increasing relaxation of Government regulations in such matters as route licensing, market access, capacity controls and fares pol-

IATA is forecasting a provisional operating profit for its member airlines for this year of some \$2.3bn, compared with about \$2.4bn for 1987. At the same time, the rapid

escalation of new technological developments, such as the growth of computer reservations systems and tha emergence of CRS "clubs" or groups, is profoundly changing the structure of the airline industry - a development that still has a long way to go.

Apart from the need to Meanwhile, the airlines must improve the industry's funda-mental infrastructure, howspend substantial sums reequipping their fleets both to meet the traffic growth and to ever, probably the most signifi-cant development, and replace the growing number of jets which are reaching the end of their useful life. cant certainly the most far-reaching Looming over all these prob-lems, however, is what the

lation and liberalisation.

ket competition. These have included liberal-

ising fares policies, improving

traffic on any route by chang-

ing the current rules on capac-ity-sharing under bilateral air

agreements. These moves were followed earlier this year by a further EC directive introducing com-petition in a wide range of air

traffic handling and operating

techniques at airports. Welcome though these mea-

sures have been to the consum-

ers of air transport - the pas-sengers - they are still widely

the airline industry believe

natient negotiation.

agreements.

IATA director-general, Dr Gun-ter Eser, has described as the the industry today – the increasingly urgent need to improve the overall infrastructure on the ground and in the air.

On the ground there is a growing need for more passen-ger terminals and runways, and in some parts of the world even more airports (along with a need for extensive expansion and refurbishment of existing ones), to cope with the growth. Worldwide, between now and the end of this century, up

to \$150bn will be spent on airports alone. Much of this will be spent on

modernisation and expansion of existing airports, but on present plans close to 100 new airports will either be built, under development or in the planning stage, by the year 2000

In the air, the increasing volume of flights is already imposregarded as not going far ing severe strains on air traffic control capacities, especially in enough to ensure total air transport freedom in Europe. the US and Western Europe, as aircraft movements increase. IATA has forecast that in Europe alone, the number of international scheduled airthat target to be unrealistic. Even the limited reforms so far craft movements (about 8.54m 1987) is expected to double to about 6.6m a year by the end

of the century. The LATA says there is already a serious shortage of air traffic control capacity, and that far-reaching improva-ments to the system are needed

in the UK alone, some £600m. is to be spent by the mid to late 1990s on the improvements to the ATC system - a sum that may well need to be increased if current problems in that area are to be adequately solved. All these problems are gener

ating for the world air transdented era of rapid change. Already, the shape and man-agement conduct of the indus-1992 date. try is totally different from that of five years ago, and it will have changed even further by the end of this decade.

influenced by the highly- suc-cessful flotation of British Airways in 1987. There are plans for complete

or partial privatisation as far afield as Anstria, Canada, the Philippines, Portugal and West Germany, and others will fol-low. Part of the reason for this in its long-term impact, is the rapid move away from Govern-ment controls towards deregnis the desire of governments to Within the European Com-munity, e start has been made withdraw from what is becoming a very high cost industry to support, especially with realready with decisions by the equipment costs rising steadily. Transport Ministers late last year to break the log-jam of government controls which

But more significantly, it is seen as recognition that in the have kept Europe's airlines from the full force of open marrapidly expanding air transport markets of the future airlines will stand a better chance of financial success if they are free to move swiftly to readjust to changing conditions without the shackles of governmental market access for airlines, both existing and new ones, and widening the opportunities for airlines to win bigger shares of constraints.

In addition to privatisation, there is also a trend towards airline collaboration, either through complete take overs or mergers (as with Brit-ish Airways' take-over of Brit-ish Caledonian), or the purchase of minority shareboldings (as with BA's purchase of a stake in the smaller regional airline, Brymon), or even through operating pacts to improve the global strength of the participating carriers (such as the BA marketing deal with United of the

Further, the bringing together by individual airlines Although the EC itself wants to see complete freedom in the air by the end of 1992, many in of their computer reservations systems into groups or clubs, such as Amadeus and Galileo in Western Europe, is bound to have a major influence upon the industry's future developachieved have taken years of

And there is still much-The over-riding objective in reluctance among governments all such moves is to strengthen to surrender the national sovthe carriers concerned, both to ereignty over air transport that enable them to meet the has been the cornerstone of the increasingly formidable compe industry's development since the early 1920s. tition and to increase their individual market shares. Policing the measures

These closer relationships already announced, to ensure their implementation by the are many and varied, but they are already reshaping the industry - here again the most striking example has been the way in which the BAairlines, will be a formidable enough task for the EC. but it will also be under considerable pressure, especially from con-BCal merger has resulted not sumer groups, for further liberonly in an enlargement of BA's alisation measures before the own route network but also in new opportunities for other UK Another move that is likely airlines to pick up UK domes to further increase competition and change the structure of the tic and international scheduled service route licences formetly industry is the growth of either operated by, or held by, efforts by governments to pri-vatise their flag sirlines either wholly or partially, doubtless BCal

Michael Donne



Completed sireraft stand outside the Boeing factory at Everett, north of Seattle, where 747 Jumbos and 757s are built. Boeing order backlog of over 1,900 sircraft of all types represents more than four years' work at current production rates

## CONTROLLING THE AIRSPACE Air movements to double

OVER THE past summer, air travellers in Western Europe and the US have become accus-tomed to delays on the ground some severe, especially in

volume of 3.3m sircraft movements on international flights

mend ways of removing them. At the same time, it has urged that Eurocontrol should airlines argue that the problem must be faced and overcome, no matter how difficult it may draft specifications for the next reneration of ATC sys at individual airports. This night curfew effectively and seek additional funds from aber-governments. The aim shuts down most of the air is to produce some kind of progress report by November. transport industry for seven hours or more every working Such actions and ontlays day, leaving a huge amount of expensive industrial resources idle. The airlines believe that with the increasing number of will do little or nothing to alle-viate the immediate problems of congestion, and whether they will be adequate to solve the problems in the long-term quieter jets, the severity of such curfews could be allevi-ated, although it does not advois arguable. Many controllers, in the UK and elsewhere, argue that curcate their elimination rent spending plans are nowhere near sufficient to meet the situation. A more internationally-hased approach to ATC system planning is also needed, with devel-They argue that at a time opments covering wider areas of Europe than at present, so that different ATC centres and the equipment they use can be made more compatible than at spite of often inadequate equipment present. This particular solution has already been espoused by the aviation Ministers who sit on when some \$414bn will be spent up to the turn of century on new aircraft, with another \$150bn on airports and associ-ated developments, spending on the vital "third leg" of the civil sviation stool – air traffic the presidential commission of Eurocontrol, the body set up some years ago to coutrol the upper airspace over Europe but which may now become a much wider and more powerful organisation governing all Buropean air traffic control control - is treated financially like a poor relation. IATA argues that in Europe systems. At the same time, the curindividual governments must do much more, not only to overcome the industrial relarent flow-management system must be much better co-orditions problems that plague the region, but also to overcome staff shortages where they nated internationally. At pres-ant, say the airlines, it is unresponsive and often causes unresponsive and orien causes loss of capacity. The IATA itself has been studying all these matters in detail through a special Task Force set up in July. This small group, which is due to report by the end of the year, will look into the capacities of exist "by fairly rewarding flexible working arrangements. But IATA insists there is much more to be done. It says the current policy of introducing "flow management", whereby limitations are placed on the numbers of flights movwill look into the capacities of airport terminals, aprons, run-ways and taxi-ways, as well as ing through specific airspace sectors, is only a palliative and not a cure. It was never intended for the immediate air space around airports to see where there are constraints and how constant use, and is being expected to do more than it

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

posed restrictions on night flights at many airports, the . کنتر ا

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fronting the industry, and fully. tries' ATC systems and recomexpects it to get worse. It points out that the overall

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the UK - while the air traffic controllers have struggled to cope with the rapid growth of demand for "slots" in the already densely-populated air-space over their countries.

At the same time, in some countries, especially the UK, passengers have been given frequent media reports of "near misses", some of which undeniably have been serious. The two problems have given rise to genuine fears about civil aviation safety at a

time of big increases in traffic, averaging more than ten per cent in the past two years and expected to continue growing at about 6 per cent over the years immediately ahead. The fact that, so far, there has not been a mid-air collision

in the skies over Western Europe indicates that, despit the growth, the air traffic con-trol systems (ATC) are per-forming well albeit in the face of considerable difficulties. These include in some places

outdated and often inadequate equipment, and a widespread lack of co-ordination between individual national systems. Moreover, the overall situa-tion, difficult though it may be, has been severaly aggravated this past summer by labour

disputes in the ATC sectors of various comtries - the UK, Spain, Italy and Greece, for example - which at various times have themselves generated unprecedented congestion (with flights delayed by well over 24 hours in some cases) with the inevitable "domino effect" throughout the air

transport system. Whatever the reasons for these industrial disputes, they undeniably have brought misery to many thousands of innocent air travellers, and inflated airlines' bills by many millions. of pounds. The long-term damage to air transport is incalcu-

But many of these current problems, including the labour relations problems, have not emerged dramatically over-night. They have been developing for some considerable time, against a beckground of repeated warnings from many aviation observers.

What has eraggerated them, as the International Air Transport Association (IATA), repre-senting 171 arrines worldwide, senting 1/1 aimines worldwide, has pointed out, is that traffic growth over the past two years has been much greater than anyone anticipated, accelerat-ing the need for improvements in the air traffic control system originally planned for the originally planned for the 1990s.

Nevertheless, no one in air transport minimises the prob-lems. IATA says the shortage of ATC capacity is the most difficult single problem concongestion in the short term, by identifying the incompati-bilities between member-coun-

in Western Europe (the Euro control area plus Switzerland and Austria) reported in 1987, which was 7.8 per cent up on 1986, will rise by a further 7 per cent to more than 3.54m movements in 1988, and by a further 4.5 per cent on average each year to reach over 4.61m

From those figures, IATA forecasts that the 1967 level of movements will double by the year 2002.

In the UK, many airlines, especially charter operators, who have suffered severe dialocation of their meticulously-

by 1994.

Traffic control systems are performing well in

planned operations this past summer, point out that the hills for such dislocation are rising steeply, and that if the situation is not corrected, air fares may have to rise to offset the costs.

Other sirines, including Luf-thansa of West Germany, have found that ATC delays are costing them substantial sums. Much is already being done to improve the situation, but it is essentially a slow process. In the UK, some £600m is being spent between now and the mid-1990s on improving exist-ing ATC equipment and introd-ucing new facilities, including a totally new and expanded Loudou Air Traffic Control Centre.

The UK National Air Traffic Services, under the Civil Avia-tion Authority, point out that it is not just a matter of introducing new equipment: training more controllers takes time, and even while improvements are being made in the system, the existing operation has to be run 24 hours a day, seven was designed and staffed for "and cannot therefore cope efficiently."

be run 24 hours a day, seven days a week. Statilar sums are being spent in other countries, although the spending pattern is uneven - hence the labour disputes, often sistimung from claims of inadequate equipment, the low pay and status of controllers, and impossible working condi-tions. The only answer, in the airines' view, is to develop more capacity - by insking more efficient use of existing aval-able airspace, spreading the loads out more evenly during each day, so as to ease pres-sures in nesk periods sures in peak periods. If this means revising the

While it is not possible to quantify in detail the total amount that is being spent over the next decade through-out Europe alone on improving current environmentally-im-ATC systems, it is clearly likely to be several billion dol-

Ints. The UK has also taken the initiative in Eurocontrol, the body set up some years ago to manage the upper airspace over much of Western Europe. It has urged that Eurocontrol should study ways of relieving

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they can be removed. In general, the air transport industry believes that there is no instant and spectacular solution to the current ATC

acity problems. But it argues that much can be achieved by a wider and deeper international recogni-tion of the problems, and a greater willingness by coun-tries to work together.

Michael Donne



Companies interested in possible divestment of activities with annual T/O in range £1m to £6m are requested to write in strictest confidence to

The General Manager Box T6957 Financial Times, 10 Cannon Street, London, EC4P 4BY.

THE WORLD'S major airliner manufacturers are currently enjoying a boom in sales of jet transports of all kinds that seems likely to continue into the early 1990s.

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Two factors are causing this demand. First is the continued growth of world air traffic, currently running at about five to seven per cent a year and expected to be sustained into the immediate future.

This has already resulted in some big orders so far this year, and if this surge of year end, 1968 may well set a new record for airliner buying, exceeding last year's total of 738 new jets of all kinds ordered, worth over \$39bn.

The demand is spread across the entire airliner range/pay-load spectrum, from the short-haul arena where passengers are continuing to insist upon increasing frequencies of ser-vice with smaller arcraft, through to the need for increasing numbers of larger medium-to-long range twin-en-gined jets for routes where traffic densities do not justify the use of bigger 747 Jumbotype aircraft.

The latter in turn are also in have now begun the long-awaited replacement of their existing ageing fleets.

THE WORLD'S commercial aero-engine manufacturers are: likely to remain exceptionally active over the remaining vears of this century, not only in fulfilling the big engine orders aheady on hand for the \$72bn-plus of new airliner con-tracts outstanding, but also in meeting the massive volume of new business anticipated.

new onsiness antropated. Rolls-Royce of the UK, one of the world'a "big three" com-mercial engine builders (the others are General Electric and Pratt & Whitney, both of the US), estimates that out of the total \$414bn value of antici-pated new airliner orders over the next ten years the engine the next ten years, the engine makers' share may amount to as much as \$200bn (about £110bn).

This represents both the value of the initial contracts anticipated, and the value of spare parts over the 20 years or so of service life of the engines involved.

Rolls-Royce believes that well over half of this business

This has been delayed for some time because tha continued low price of aviation fnel has made it more profitable for many atclines to retain exist-ing fleets of early-model Boe-ing 747 long-tange, 727 medi-um-range and 737 short-range jets, Lockheed TriStars and

are now more than 20 years old demand is sustained to the and are becoming expensive to year-end, 1968 may well set a maintain notwithstanding the new record for airliner buying. Now price of fnel, while their noise and pollution emission levels are becoming unaccept

able in many countries. While some efforts are being made to gain extended service lives for some of these older types through ambitious re-engining programmes with moderning programmes with mod-ern quieter and cleaner jet engines — as such as Rolls-Royce Tay engines in One-Elevens — so far the air-lines' response has been slow. Big efforts are being made by the companies involved (Dee Howard on One-Elevens and Valsen on Boeing 727s, both in the US) to win airline support.

The fatter in turn are also in the US) to win aritime support-growing demand, as more and for these ventures. more passengers seek to fly . But overall demand for new non-stop over longer distances. aircraft will remain high. Boe-The second factor is that ing, the world's biggest builder many of the bigger airlines of jets, estimates that between have now heaving the long. now and the year 2005 curliers

McDonniell Donglas DC-10 medium to long range jets, as well as short-range McDonnell Douglas DC-95 and BAC One-Elements.

the US) to win airline support-

now and the year 2005, outlays by the airlines on new aircraft will amount to some \$342bn (in

thrust and over will ba

required - such as Boeing 747 and McDonnell Douglas MD-11 long-range jets, and the 767 medium-to-long range and Air-bus A-330 short-to-medium

range high density twin-jets. About one-quarter of tha market will be found in air-

craft of 120 to 200 seats, such

as the Airbus A-320 and the

Boeing, 757, where engines of between 20,000 and 40,000lbs.

jef categories of 50-100 seats, such as Fokker 100s and the smaller versions of both the

McDonnell Donglas MD-80 and Boeing, 737 series and British Aerospace 146, where engines

of between 10,000 and 20,000lbs.

thrust are required. Other major engine builders

Other major engine outloars, sharing this business, apart from GE, Pratt & Whitney and Rolls-Royce, will be CFM Inter-national (the consortium formed by General Electric of the US and Snecma of France

1988 dollars), of which some \$242bn will be to meet growth and the other \$100bn to meet replacements.

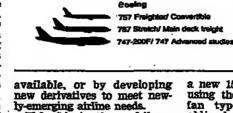
If current orders of \$72bn are included, overall spending by airlines in the Western world up to the year 2005 will amount to \$414bn, compared with the \$372bn spent on jets between 1950 and 1987.

The result will be that, by 2005, the overall world jet transport aircraft fleet will have grown from the end-1987 level of 7,425 to 11,715 sircraft, after allowing for both replace

ments and traffic growth. There is already an excep tionally wide range of jet air-liners available, covering the entire range payload spectrum, from 100-seater jets upwards to over 450-seaters, and from short-range jets such as Boeing 737s and McDonnell Douglas MD-80s to very long-range air-craft such as the current Boeing 747-400, the Airbus A-340 and McDonnell Douglas MD-11. Most of these aircraft are each available in a variety of models. As a result, most of

the airlines' requirements can now be met either by fine-tun-ing the performances of one or another of the different models

Airbus.



This "derivatives philoso-phy" is dictated by the vast costs involved in developing entirely new airliners. Boeing, for example, which until ear-lier this year boped to develop

a new 150-plus seater airliner using the revolutionary propfan type of engines, was obliged to drop the plan bacause of lack of interest among airlines.

It now seems likely that entirely new types of jets will only emerge when major tech-

**Commercial jet airliners Committed products** NcDonnek Dougles (US) MD -63 Series DC-10-30/ MD 11 SR. Short panoe Airbus (Europe 787-200/ -200 ER/-300/-300 ER ER- Extended range A-320 A-310 A-300 fraight combinatio A-330/ A-340 Fokker (Neth PF= Package treighte F-28 F-100 F= Frequisi British Aerospeci 146-100/-200/300 X- Exportmental Products in development/ study McO. MD-91X MD-92X

#### Source : Boeing Commercial Amplanes

nological breakthroughs offer

sufficiently large performance improvements to justify their heavy development costs. This could still result in the 1990s in a new generation of ultra fuel-efficient prop-fan airliners, based on the McDonnell Douglas MD-91 and MD-92 fam-

Electric GE-36 prop-fan engine or the Pratt & Whitney Allison 578DX, but no formal launch commitments on those aircraft have yet been taken. Various other major new

engine developments are still being studied, such as "ducted fan" or "higb by pass ratio" engines for the larger aircraft. But while aviation fuel prices remain steady the likelibood of their full-scale development is limited.

In the meantime, one major outstanding question is whether there will be any full-scale collaboration between Airbus and either McDonnell Douglas or Lockheed of the US, in a bid to reduce the domination of Boeing in world markets.

Discussions have been proposals for such collabora-tion by October.

the development of a stretched version of the existing 150-plus seater A-320 to carry 180-200 seats, which is seen as a logical

But other ideas being can vassed include development of a large derivative of the McDonnell Douglas MD-11 trijet, nsing the newly-designed wing of the Airbus A-330/A-430 to produce a long-range high-

density rival to the Boeing 747 Jumbo jet.

III

Boeing remains calm in the face of such potential opposition. It believes its existing jets, from the 737 short-to-medium-range aircraft, the medium-range 757 twin-engined aircraft, the medium-to-loog range 767 twin-engined jet, up to the long-range four-engined 747 – all available in a variety of models - already effectively covers all possible airline needs.

Boeing is now certain to have a new record year for ordere in 1988. By early August, the inflow of new orders amounted to 461 aircraft, worth more than \$20bn. matching Its previoue best year of 1978.

With the further aircraft in negotiation, Boeing believes the final figure for this year could be more than 600.

The company's present back-log of 1,042 aircraft represents over four years' work at cur-rent production rates, and Boeing is planning to increase production rates on all its models.

The 737 alone, now the world's best-selling jet with well more than 2,100 ordered so far, is currently built at the rate of 14 a month, but this will rise to 17 a month next year.

#### **Michaet** Donne

As a result, a wide range of

new materials is under investi-

gation, using glass, metals and ceramics as a base, with a vari-

ety of reinforcing fibres. Tita-nium with fibre reinforcement

is likely to be used for engine

where this trend will end, but as a matter of prudence all of the "big three" engine builders plan to keep pushing their thrust prime unwards thrust ratings upwards.

At the same time airlines are calling for twin-engined aircraft with greater long-range capability, especially for over-ocean flights, as a means of reducing long-range operating costs on routes where traffic densities do not justify four-engined or even three-engined equipment

As a result, Rolls-Royce for ecample is designing capability for well over 72,000 lbs thrust into the latest version of the RB-211-524, tha model L, to take account not only of cur-rent requirements but also the possible emergence of even higher thrust demands into the future.

These developments in jet engine design, requiring higher thrust to be sustained for longer periods of time, are in turn driving engine manufacturing technology further into the areas of advanced materials, especially to withstand the higher temperatures that higher thrust levels involve.

compressors, for example, and ceramics reinforced by ceramic fibres for turbines. This technology will eventually spin off into other indus-tries. Rolls-Royce believes that as a result of the work being done on new materials such as ceramic composites in the aero-engine industry, a new era in materials for many industries will emerge that

might be worth as much as £300m annually by the year 2000, rising to £2bn a year by 2010 Another revolutionary development in the aero-engine industry, though still some

way off quantity production and service life, is prop-fan propulsion.

These engines are developed from the original turbo-prop concept in which propellers are harnessed to gas-turbine engines. In the prop-fans, how-

Continued on page 4

Also involved are Avco Lycoming Textron, which makes smaller commercial jet engines, such as the ALF-502R for the British Aerospace 146 four-engined regional jet airliner, and Allison Gas Turbine Division of General Motors. At the top end of the market, for the "high thrust" engines for the biggest and heaviest jet airliners, the three major com-

#### THE ENGINE BUILDERS ti Mala sa sh Power ratings going up

**AEROSPACE 3** 

AIRLINER MANUFACTURERS

A boom in jet sales

Boeing (US)

737-300/-400/-500

757-200/ ER/ PF/ Combi

747-200/-200 Convertil -2009R /-200 Freigtaar

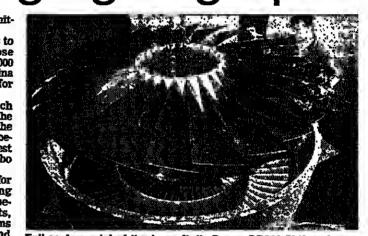
747-300/-300 Combi 747-400/-400 Combi

tional Aero Engines, the sev-CF6-80C2 and the Pratt & Whitney 4000.

nonal Aero Engines, the sev-en-company, five-nation con-sortium (including Rolls-Royce, Pratt & Whitney, Motoren- und Turbinen-Union of West Ger-Their common objective is to push the power of those engines well above the 60,000 thrust will be required. many, Flat Aviazione of Italy The remainder of the bush- and three Japanese engine ness will come in the smaller companies) to build the V-2500 Ibs thrust level, to meet airlina demands for more power for their bigger airliners. engine for the European A-320

Aircraft for which such engines are needed include the high-density Airbus A-330, the MD-11 and the stretched Boeing 767, with possibly the latest Series 400 Boeing 747 Jumbo also involved.

There are several reasons for this. One is that increasing congestion in the air, especially around major airports, with its consequent problems for air traffic control and restrictions on take-off and landing "slots", is tending to is likely to come from the to build the highly-successful panies are all now extending result in the use of bigger air-larger airliners of more than CFM-56 series of powerplants the capabilities of their engines craft on many short-to-medium 200 seats each, where the "high for the Boeing 737 and Airbus A-320 twin-jets); and Interna-thrust" engines of 50,000 Hs



Full-scale model of the huge Rolls-Royce RB211-524L turboian engine, to power Boeing 767-300 atrimers next year

they require more power to get them off the ground, hence the need for higher engine thrust. As this stage no one can say

demand for increased numbers of flights with smaller aircraft. As such aircraft in conse-

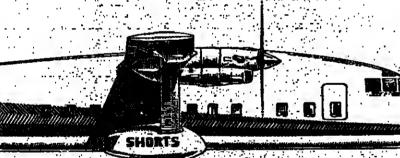
quence get bigger and heavier,

ily built round the General

progress all summer, and Air-bus has asked both McDonnell Douglas and Lockheed for firm

The immediate objective is

step forward by Airbus.



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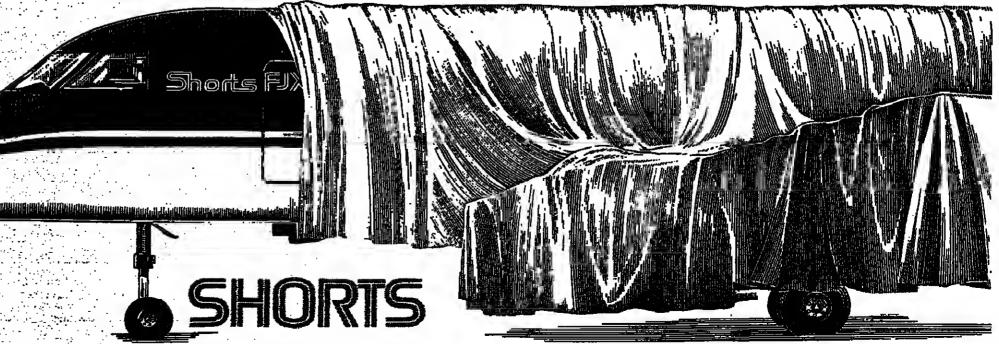
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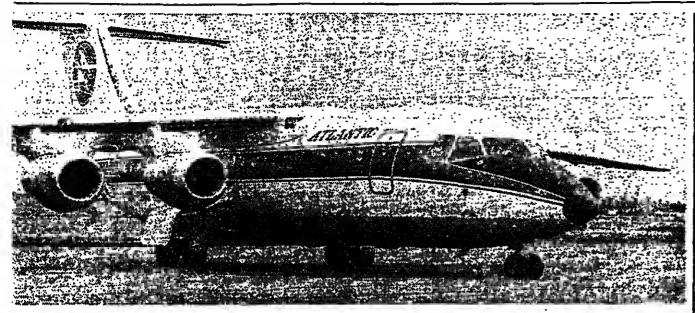
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**REGIONAL AIRLINERS** 

## World market expanding

THE MARKET for smaller types of short-range airliners - the so-called "regional airliners", either jet or turbo-prop powered - is expanding rap-idly throughout the world.

This is dua partly to the increasing desire of smaller communities to have their own air links with larger centres, but also to the growing demand for direct links between these smaller commu nities, hy-passing the bigger "hubs" where air traffic congestion is already a serious problem.

Development of this type of regional airline operation has been especially rapid in Western Europe, particularly in the EC countries where aviation liberalisation has already resulted in increased freedom for operators. This trend seems likely to

continue, as the 1992 deadline for EC harmonisation draws closer with the promise of even greater intra-Community regional air travel. Market studies by British

Aerospace, which builds three types of regional airliner (the 19-seat Jetstream 31 turboprop, the higger 64-plns seat Advanced Turbo-prop and the four-engined 100-plus seat Type 146 jet). indicate that the overall market for the broad cate-gory of "regional" types, seat-ing anywhere between 12 to 130 passengers, is in excess of \$52bn (in 1988 dollars) up to the end of this century. BAe suggests that the value

of the turbo-prop aircraft market alone is in excess of \$23bn

20-plus seaters such as the Bra-zilian Embraer Bandeirante zilian Embraer Bandeirante and 30-seat Brasilia; the larger Short Brothers' 36-seat Type 360; the 34-seat Saab 340; the 40-plus passenger de Havilland Canada Dash 8 and Franco-Ital-ian Avions de Transport Regional ATR-42; the 50-plus seat Dutch Fokker 50; and the 64-plus seat BAC Advanced Turbo-prop (ATP). Turbo-prop (ATP).

Under development are other types such as the Brazilian/Argentine Embraer-FAMA CBA-123 19-plus seater, and the 72-seat ATR-72; with a larger version of the Dash 8, the Series 400, planned to seat over 60

leers. All these are twin turboprops, much quieter than jets and thus more acceptable to small communities with limit-ed-size airfields where noise sensitivities are higher.

Such aircraft are also cheaper to buy and fly, which increases their acceptability to small operators who cannot afford bigger and more expensive jets.

In the jet category, although there is growing use of execu-tive jets for specialist corporate demand is now emerging for bigger jet aircraft, such as the four-engined BAe 146 and the twin-engined Fokker 100, especially for routes where hig-ger payloads are obtainable.

At the same time a market is Whether either of these new t projects eventually comes also emerging for smaller types of jets that lie in size between to fruition remains to be seen. The development costs of each are likely to be expensive the corporate aircraft and the Type 146/Fokker 100 - that is, for aircraft of about 48-50 seats. not less than \$800m to \$1bn To meet this, two of the biggest companies in the regional and it is doubtful whether the



Above: concept sketch of the projected 48-50 seat Canada Regional Jat, now at the initial planning stage. Below: Seab 340 being operated in Australia by Kendeli Airlinee from an unpayed strip at King Island, south of Melbourne



if a production decision is taken. Forther partners for the consortium are being canvassed, with the Japanese aerospace industry showing especial interest. The latter, however, is also

**AIRPORT EXPANSION** \$200bn spending planned

traffic continues to expand - last year's total of more than Ibn scheduled passengers worldwide is expected to dou-ble by the end of the century and continue expanding there-after - an estimated \$150bn is expected to be spent around the world on the development of sirports and their associated road and rail infrastructures. In addition, it is estimated that approaching another \$50bn will be spent on equip-ping those airports with all the facilities they will require, ranging from baggage handling systems and information

heards through to five stations. runway lighting and other aids, including advanced air traffic control systems to enable them to cope with the surging tide of pessenger and cargo traffic.

handle 7-8m bas

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cargo traffic. Aimost every country in the world now has plans for expanding its sirport capacity, either through building new airports or expanding and modernising existing ones. But all of them, in one way or another, face constraints fro environmental groups which have now become powerful forces ranged against the unin-hibited development of world air transport

There are other difficulties to be faced, including the need to revitalise the air traffic control system, especially by ensuring that there are enough air traffic controllers - fairly rewarded financially and equipped with adequate mod-ern facilities - to enable them to cope with what is already a serious traffic problem at peak periods but which may well become worse as traffic growth. continues into the 1990s.

Solutions to these aspects of the problem lie with govern-ments, which must recognize that air traffic control is the vital "third leg" of the stool on which the whole future of civil aviation rests - the others being the provision of suffi-cient aircraft and adequate airport terminal and runway facil-

Providing the adequate air-port facilities is currently exercising many governments and civil aviation anthorities worldwide, and as almost every air traveller readily recognises, there is now hardly an airport anywhere in the world where some kind of modemisation or expansion is not

going on. What is less readily apparent growth. is that behind the scenes there are many plans to build new

From last year's 800,000 pas-sengers, the aliport is intended to grow initially to cope with airports, especially in areas ... between 7m and 8m passengers' -There is no immediate evi-

as the "expansion chamber

encers a veal where air transport is still Further growth to some 15m. comparatively at an early stage of its development, and where passengers a year, which is considered inevitable, will require Parliamentary the authorities have recognised that to be without adequate air transport in the remaining require. approval, probably involving a major debate in the light of virtually certain fierce environyears of this century is to rele-gate a country to backwater

third major airport for London. When the terminal is completed in 1991, the airport will be able to

mental objections. Further growth, to 25m pas-sengers a year, will require a second terminal building in all, probably as many as 100 new apports will energe between now and the end of the century, in such areas as the Middle and Far East, South East Asia, China, Africa and Central and South America. and involve a major new plan-

ning inquiry. What happens beyond that remains open. BAA (formerly Although a number are also plinned in the US and Western Europe, those areas suffer from the British Airports Authority) is currently studying future requirements at all its airports such high population densities that it is difficult to find new areas sufficiently large and to meet traffic growth, and will present a report to the Secre-tary for Transport some time

environmentally acceptable for new "greenfield" site airports. next year. At the same time, the Civil Aviation Authority is closely studying a while range of civil aviation issues, including future airport and runway As a result, expansion within them has to be concen-trated on improving and extending existing facilities, as requirements, the need or oth-erwise for special measures to distribute different types of is filustrated by the decisions to develop Stansted as the third major arrowt for London with the provision of a new \$300m terminal; the develop-ment of a new \$200m North traffic between different air-parts, and determining how to improve air traffic control forther to cope with growth into the next century. London is one of the few Terminal at Gatwick; and the 280m refurbishment of Termi-

nal Three at Heathrow, with cities in the world to have a city centre airport, the London City Airport in the now rapidsuggestions that a fifth terminal may even now be needed at Heathrow. The Stansted development is veloping Docklands. This especially significant, for that airport is now widely regarded has been operational for under a year and traffic is expanding lowly. At its peak capacity of just over 1m passengers a year, which may be reached around for coping with air traffic growth in London and South East England, and indicates the scale of the overall UK problem in dealing with excep-tionally high anticipated traffic the early to mid-1990s, it could do much to ease the load on the other South East England airports, especially if approval is granted for jet airliners such as the British Acrospace 146 regional aircraft to use the air-

dence of an upsurge in firm plans for other city centre air-ports elsewhere in the world, hut the advent of quieter, more environmentally acceptable aircraft would stimulate damand and also help to spread the load on the major airports.

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

Elsewhere in the world. major expansion is taking place at the main airports serv-ing Sydney, Amsterdam, Miami and Singapore, to name only a few of the main projects at present. In addition, most African states have substantial. projects, including Gabon, Guines, Kenya, Mauritania and Nigeria. In Zambia, the Government has been working in association with the Japan Transport Consultants Association on the country's stiport

expansion plans. In Australia, the second international airport for Syd-ney is to be built at Badgery Creek, 46 kilometres west of Sydney. The overall cost of the proposed new airport could come to over \$2bn. Capacity at the present international air-port, at Kingsford-Smith, could be squeezed well before the new airport is able to help take

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the strain. In Europe, there are expan-sion plans at most airports, including Rome and Milan. The Rome airport capacity is to be nearly doubled, from 14m passengers in 1985 to 25m pas

gers a year. Frankfurt, West Germany Frankturt, west Germany has a \$1.15bn expansion plan for its airport, reflecting the pattern worldwide for more airport capacity to meet the seemingly insatiable demand from vaccours from passengers.

**Michael Donn** Lynton McLain

with the short-range regional et airliner market worth more than \$29bn.

Short Brothers, of Belfast, which builds the twin-turboprop Type 360 and 330 airlin-ers, believes the regional market will grow worldwide by more than 5 per cent a year in the broad category of 20-130 seat airliners until the end of the century. It also believes that in the

40-60 seat classes alone there could be a market for more than 1,000 aircraft, worth sev-

eral billion dollars. Canadair, the Canadian builder of the Challenger corporate jet, assesses the potential market for regional aircraft at more than 2,420 through to the end of the century, of which 1,380 aircraft will be in the 20-40 seater class, and 1,040

in the 41-plus seat class. Thus although their figures may vary, the major manufacturers are agreed that a large world market for regional aircraft will exist over the next few years.

Already, the regional sector is served by a wide range of aircraft. They include the 19seat Jetstream 31 of BAe: the

ultimate market, large though airliner market, Short Brothers and Canadair, have separately it may be, could support two such ventures profitably. It might therefore make ecobeen studying new regional jet airliner des rliner designs. Short Brothers has a design for a 44-seat twin-engined jet, called the FJX, while it is also discussing possible collabora-tion on it with Dornler of West

Germany. Canadair is studying a project for a twin-engined 48-50 passenger aircraft called the Regional Jet. Both companies hope to win

enough launch customers to justify starting full-scale devel-opment either later this year or in 1989. in the Short Brothers case, the company is expected to seek UK Government launching aid for the project. Canadair's view is that in addition to the existing growth in demand for regional transports, the US Government decision to phase out in the early 1990s a large number of aircraft unable to meet the proposed more stringent "Stage Three" noise requirements, is expected to result in the replacement of more than 600 transport aircraft in the DC-9, F-28 and One-Eleven category,

nomic sense for both Short Brothers and Canadair to join forces to develop a common aircraft which would be assured of a world market. In the meantime, Short Brothers is also considering

joining a consortium compris-ing Messerschmitt-Bolkow-Blohm of West Germany and the China Aero-Technology Import and Export Corporation (Catic) on a \$1bn project called

the MPC-75. This would be a twin-engined prop-fan powered airliner for 75 passengers. It would provide severe competition for the current 60 plus seater turbo-prop airliners, such as the British Aerospace ATP and the Franco-Italian ATR-72. The group has set up a spe-cial company, MPC-75 GmbH, which will be responsible for planning, managing and mar-keting the MPC-75, which would actually be built by the three partner companies. The MPC-75 is currently

creating demand for new small planned to enter service in 1995

interested in possible collabo-ration with Indonesia and Singapore on the development of a 5-seat civil transport, for service hy 1995, also based on prop-fan engines which would be developed in Japan. The development cost of

such a venture is estimated at about \$900m, to be put up by a joint venture called Heavy Industries, comprising Ishika-wajima Haring Heavy Indus-tries and the Indonesian manufacturer, Nurtanio, with a Singaporean element yet to be named

At the same time, however other studies for regional transports have been abandoned

One, for example, was a plan by Boeing, Messerschmitt-Bol-kow-Blohm, Fokker and Nurtanio for a new 100-seat turbo-prop siriner for launch in the 1990s, called ATRA-90 (Advanced Technology Regional Aircraft).

It has been dropped because the current stability of fuel prices, coupled with the improved fuel efficiency of the emerging prop-fan engines, would have limited the savings any such venture could offer.

**Michael Donne** 



## Engine power ratings going up

#### Continued from page 3

ever, the propellers are shaped more like ships' screws than conventional propellers, and this together with refinements in the gas turbines themselves results in substantial reductions of up to 40 per cent in fuel consumption compared with the current turbo-fan (jet)

to service to 1993. Moreover, the airlines so far have remained cool to prop-fans. While they recognise that the claims for large reductions joint company, PW-Allison, formed by Pratt & Whitney and Allison, on the 578DX, pelther has yet been committed to quantity production. McDonnell Douglas with its MD-91 appears closest to pro-duction of a prop-fan powered airliner, but although origi-

in fuel consumption cannot be ignored, the airlines prefer to stay with the types of power plant they know, especially while fuel prices remain at the

current comparatively low lev-

for the remaining years of this century are powered by new or produced profitable returns. improved derivative versions of existing turbo-fan (jet)

Thus the engine and air-frame builders seeking to pro-McDonneil Douglas and Gen-eral Electric, with the MD-91, will have a tough fight to con-vince customers that they This means that the airlines are already making, and will continue to make, substantial vince customers that they should move into the prop fan era swiftly.

Michael Donne

investments in existing jet engine technology, and will not readily want to change to nally intended for service in-1991, the delay in committing the GE-36 engine to production has already obliged Douglas to defer the MD-91's introduction -Although much work has els. It is significant that all the major sirliners now on offer prop-fan power, even in the smallest types of airliners, until those investments have been done by General Electric with its GE-36 engine, and by a GETHER A BIGGER FUTUR Smiths Industries is recognised as a valuable Smiths Industries meets the highest targets: partner to the aerospace industry, having earned a • To be a single and unified company. To reach all financial and specification re

reputation for innovation and leadership through close involvement in many of the world's major advances in flight systems development.

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• Solid State Displays for the BAe 146 airliner. Potential new business:

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#### **BUSINESS AVIATION**

Learjet and Piper, totalled 551, worth more than \$782m, against 557 worth \$652m in the

Mr Stimpson suggests that this indicates the industry is

now holding its own after the

progressive decline of recent

years. He points out that the

export market is especially

strong with exports account-ing for 45 per cent of produc-tion in the first quarter alone. Also, the business jet air-

craft market in particular remains strong, reflecting the growing appreciation of indus-

try and commerce of the val-

ues of business aviation, with

first half-year production of 69

business jets against 56 in the comparable period of 1987, a rise of some 23.2 per cent. Production of turbo-propeller

aircraft has remained steady at

120 against 119, but production of single and twin-engined pis-

ton aircraft both declined:

twins dropping some 14 per

cent from 42 aircraft to 36, and

single-engined aircraft falling

from 340 aircraft to 326. In the business jet field,

first half of 1987.

Means to beat congestion

Cessna led the way with deliv-

eries of 28 Citations, worth about \$140m, followed closely by Gulfstream with 23 of the

higger Gulfstream IVs. worth

\$337m, while Learjet delivered

11 aircraft, worth \$43.7m, and

Beech delivered seven worth

to be deeply concerned, how ever, about the impact of prod-

uct liability, where in the

event of an accident - even

many years after delivery of an

aircraft which has passed

through several owners, and

even where pilots and owners

are negligent - the manufac-

turers can be, and sometimes

are, held liable in the courts for heavy financial damages.

costs to cover such possibilities

have pushed up prices and

driven sales down. Some man-

ufacturers have even aban-

doned the production of some

models because of product lia-

ing our competitive position. It

As a result, heavy insurance

The US industry continues

about \$207m.

bility costs.

is the single largest cost factor in the production of a piston aircraft

"Recently, a manufacturer purchased a \$40 part from a supplier and it came with a \$200 surcharge for product lia-bility.

bility. There is something wrong wheo a manufacturer is held responsible forever. If the Wright Brothers [of 1903] were

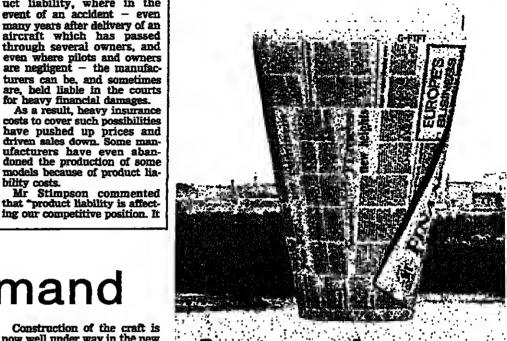
still flying they would still be responsible today." Stroog efforts are being made by GAMA to have legislation put through Congress restricting this kind of product liability. Two Bills, one in the

House of Representatives and the other in the Senate, seek to establish uniform product lia-bility standards for general aviation and offer aircraft manufacturers some protection from "frivolous and unjust lawsuits without substantially diminish-

V

ing the consumers' rights." GAMA says: "These Bills have moved farther and faster than maoy would have believed possible earlier this VEAT."

It believes the legislation could be passed this summer if enough pressure is put on Senators and Congressmen. Michael Donne



#### 1.641 142 N. 2 Nov 4 St. 14 وروره المداعية مدسا

as the pilot, is 100 feet tall and has 90,000 cubic feet capacity. Operated for the newspaper by the Aerial Display Company, it made its first free flight at the Biggin Hill Air Show on June 19 and has since flown extensively.

Vennes have included Roubaix in France, to celebrate the opening of the FT's new printing plant there, and other cities such as Amsterdam, Copenhagen, Rotterdam, Frankfurt, Geneva, Helsinki Luxembourg and Stockholm. Further European flights are

anned this autumn, and the balloon may also be taken to the US.

using the smaller, quieter air-

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ort will be able to

information in for it cay centrals of quieter, one ally account and

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owned outright.

vacy gained, for even-flying first class or business class on the scheduled airlines is not as conducive to the detailed study claim.

Another is the saving in costs. While at first sight either owning or chartering a

MANY COMMERCIAL and indicates that apart from the industrial organisations and savings in regular air fares and individual business travellers, even overnight hotel bills, especially in Western Europe there are tax and other allowand North America, have be

of improving their communics. cheaper than many business tions, thereby expanding their people imagine, activities - and profits. Few who have seriously They have found that by adopted private aviation as a using any of the wide variety means of promoting their cor-of aircraft available to than, porste activities ever regret either fixed wing or halicop their dicision though a careful ters, they can overcome the investigation of the available increasing congestion of sur-position is needed face transport. And also - by in the UK, the General Avia-using the smaller univers at the surface of the surface of aircraft available to them. tion Manufacturers & Traders' Association (GAMTA), which

One is the much greater pri-

of business documents or private business discussions, as airline advertisements may

private aircraft may be appear expensive, closer analysis often

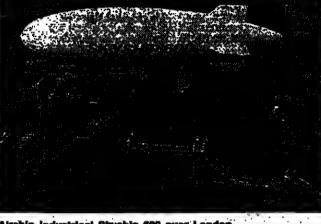
en suces in different countries turning to aviation as a means that make private aviation of improving their communication cheaper than many business

both continents - even avoid advises and helps businessmen

both continents - even avoid advises and helps businessmen the increasing congestion at and women interested in using major civil apports. Apart from the resulting ering purchasing, leasing, or savings in time, and in wear, chartaring an aircraft, it is, and tear, there are other bene-fits in using a private aircraft, should match your own spe-for business operations, clific needs so far as seating whether it is chartered or comfort and cost are concomfort and cost are con-comfort and cost are con-comed.<sup>3</sup> The UK's biggest manufac-turer of business aircraft is

British Aerospace, which ear-Her this summer sold its 700th Type 125 twin engine jet. No other British jet aircraft has sold in such numbers, and the sircraft is now in service in 40

countries. Originally designed as the de Havilland 125, the aircraft first flew in 1962 and has been subject to continuous develop-



#### Airship Industries' Skyship 600 over London ...

craft of all kinds is growing hot air balloons of various rapidly worldwide . These designs a year. rapidly worldwide . These include both hot-air balloons for advertising and display, as well as leisure and sport flying,

nies, Cameron Balloons, of

INTEREST in lighter-than-air - nies build and export about 500

hies, Cameron Banons, or Wills Bristol, and Thunder and Colt This includes tasks requiring turing companies: All'sup of Oswestry, Shropshire. a craft able to fly slowly with a Industries, based at Carding-Between them the two companies: high degree of stability, and to ton. Bedfordshire; the work

military daties including coastal patrol and over-thefleet surveillance.

By their nature, hot sir bal-loons, which are non-powered : and non-steerable, are more

eral helium airship manufac-

A growing world demand remain aloft for many hours at Advanced Airship Corporation (formerly Wren Skyships) in a time. By comparison with the Isle of Man; and Thunder and Colt Balloons.

fixed-wing and rotary-winged aircraft, they are also quiet and thus unobtrusive - not Airship Industries, an associonly a major environmental benefit but also highly useful ate of the Australian Bond Cor-poration, to date has built 13 As a result they are in demand for such work as TV

ment, resulting in steady upwards of 200 aircraft, worth improvements in performance, more than \$1.5bn to the chosen

economy and passenger com-

Export siles over the years amount to more than £1.50n in

North America is the single

largest market for the 125, and accounts for more than 60 per

cent of all sales of the aircraft. The 125 now accounts for 53 per cent of the worldwide sales

of all types of medium-sized

business jets, and the order total is increasing rapidly. Dur-ing the first six months of this

year, sales amounted to 20 air-craft, against 27 for the whole

Major recent customers for the 125 have included the US

Air Force, which has ordered six aircraft in a \$100m deal to

provide aircraft for flight

This deal is likely to help

British Aerospace in a major bid for the coming US Air

Force contract for a new train-

ing alreraft, the Tanker-Trans-port Training System (TTTS). The USAF is expected to want

. . .

fort.

of 1987.

in many roles.

all involved.

1968 values.

manufacturer.

But competition for the deal

will be fierce, with all of the major US business jet aircraft manufacturers interested in it,

especially Beech and Lear. To

help promote its bid, British

Aerospace has teamad with

the general aviation manufac-

turing busines has been in the

doldrums for some time, with demand falling and some man-

ufacturers closing factories, with the result that every item

of defence business is bitterly

contested. However, the situation may

now be improving, according to Mr Edward W. Stimpson, president of the General Avia-

tion Manufacturers' Associa-

He recently reported that in the first half of this year, the number of aircraft produced by the members of GAMA, includ-

ing the majors such as Beech, Cessna, Fairchild, Gulfstream,

tion (GAMA).

The competition will be fierce because in the US itself

Rockwell of the US.

platforms, aerial advertising, sightseeing, and pipeline inspections and other surveil-lance tasks, as well as many ropolitan Police for general surveillance work, one craft for use as a TV platform for the Seoul Olympics, and another for sightseeing over Tokyo by Japan Airship Services. Such craft are being developed in a wide variety of

designs to suit the tasks envis-The company is also curaged, with such countries as rently involved in a joint ven-Australia, Canada, China, France, West Germany, Mexico, and the Soviet Union ture with Westinghouse Elec-tric Corporation of the US to velop a \$169m prototype air-

ship for the US Navy. This craft, called Sentinel 5000, will be more than 400 feet The UK itself now has sevlong and is intended to provide a stable platform for Airborne Early Warning of enemy

attacks for the US Fleet while at sea. The US Navy envisages having a large fleet of such craft eventually.

At the same time, Airship industries is pursuing further export prospects worldwide, with especial interest in a US Customs Service requirement for a fleet of up to 12 airships for surveillance; a requirement by the US Coastguard for air-ships for pollution patrols; and extensive requirements by security organisations for craft for surveillance and other duties.

The Advanced Airship Cor-poration of the Isle of Man is currently huilding the ANR (advanced non-rigid) craft at

will cruise at about 40 knots, powered by two Allison (US) turbo prop engines.

Construction of the craft is now well under way in the new airship hangar at Jurby Air-port, with completion expected some time early in the New Year. First flight date is not yet set. The company reports a high level of interest from potential users. Thunder and Colt, although

primarily a hot-air balloon manufacturer, has also devel-oped a helium-filled airship, the two-seat (pilot plus passen-ger) GA-42, which is now com-pleting its development flying. The first GA-42 customer is

will be used for such tasks as aerial advertising and display, as a TV and film camera plat form, and in surveillance and other security roles by the police and other organisations. M.D.

- -----

THE Financial Times' own aerospace venture, this hot-air balloon was specially built to celebrate the centenary of the newspaper this year. It has been flying frequently throughout Western Europe to advertise the paper.

The balloon is coloured pink and shaped like a rolled-up FT, showing the front page. It was built at Thunder and Colt Balloons in the UK by Per Lindstrand, who achieved the world record height for a hot air balloon of 20,000 metres, and set the transatlantic non-

carry three passengers as well

Age we be much prove that it is a good to be

M.D.



its Jurby Airport base. This is a 20-30 passenger airship, which is also intended to operate as a maritime patrol craft with an on-station endurance of more than 24 hours. It

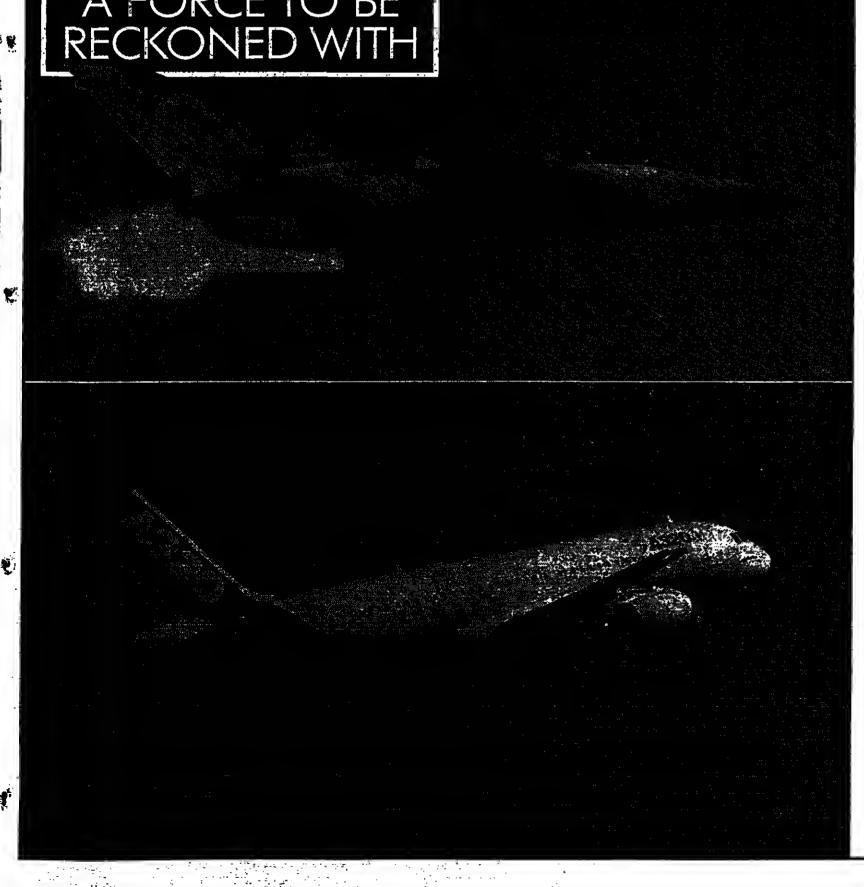
The Airship and Balloon Com-pany, of Stafford Park, Telford, Shropshire, which has ordered two craft. The first is expected to be delivered later this year.

Based near Birmingham, it

stop record with Richard Bran-The FT balloon, which can

craft, including both the small siz-passenger Skyship 500 and higger 13-passenger Skyship Recent sales have included a Skyship 600 to the Tokyo Met-

AIRSHIPS AND BALLOONS



Nowty presents a formidable force in the aerospace and defence sectors...with Dowty Aerospace committed to the manufacture of landing gear, state of the art propellers, flight control actuation systems, and the Electronic Systems Division focusing the Group's expertise on systems for aircraft and engine control, missiles and antisubmarine warfare.

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As you see, like the Tornado and Airbus pictured here, Dowty is a force to be reckoned with.



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THE WORLD'S space industry over the next few years looks likely to settle down to a period of steady but by no means rapid growth as some of the uncertainties inherent in the business start to become smoothed out

The sector is passing through e consolidation phase between the initial headlong rush into space projects and a further stage in which schemes of this kind begin to produce significant economic returns.

Space programmes, eccord-ing to this argument, were started initially at the behest of governments to provide both military security and a sense of spiritual achievement that voy aging into the cosmos involves.

The early rocket launches were vital for putting into orbit sny satellites and other mili hardware considered to be tary vital for defence purposes.

At the same time, the advent of manned space flight, in the shape of Yuri Gagarin's epic voyage in 1961, led to a battle for political prestige played out between the US and the Soviet Union.

Today, spece programmes are still very much affected by next two years.

THE POSSIBILITY of developing a second-generation supersonic airliner to replace Concorde either late this century or early in the next is now attracting increasing attention, especially in the US.

All the major airliner manufacturers have studied this possibility for years, hnt until recently none has spent any significant sums on it, largely because of lack of airline (and government) interest.

This situation may now be changing, for several reasons, One is that Concorde itself, while still good for service through to the end of this century as a result of its current extensive refurbishment programme, will have to be replaced sooner or later.

Because the design, develop-ment and manufacture of such an aircraft is likely to take at least seven to eight years, and possibly much longer if the ed to overcome environmental objections is taken into account, serious consideration of such a venture ought to

start soon. Second, the view now emerge ing in the US is that with the growing importance of the Pacific basin both strategically and economically, faster transport between the US and the Far East is essential by the turn of the century - with either a second-generation supersonic, or even hypersonic, transport as the only answer.

the twin factors of military involvement and prestige, hut with commercial and technological aspects playing a stronger part. Virtually all space projects

rely on state organisations if not to foot the total bill then to provide vital infrastructure such as the provision of launch facilities. There has, however, been an

increasing interest by the private sector in taking part in space programmes for commercial reasons. Privately-backed telecommunications companies, for example, are involved in many of today's communications satellite projects. This is particularly the case

in the US, where companies such as GTE and Western account for the launch of about Its satellites a year and to add up to some \$800m annually, looks likely to grow at a rea-sonable rate - though far less Union have been accepted as purchasers and operators of e vehicles since the 1970s. The trend has spread in quickly than was envisaged a recent yeare to Western cade ago. Europe – as is manifested by the plans of Société Européene In a move that should boost strongly the private sector's involvement in launchers, the US Government is leaving the des Satellites and British Satelhte Broadcasting, two private Enropean organisations, to business of putting commercial start rival direct broadcasting

satellites into space. The apace shnttle fleet, which should be flying again TV satellite services in the

but carrying a much larger payload - 200 to 300 passen-

#### Commercial involvement in space programmes is increasing

## Private sector moving in

**AEROSPACE 6** 

by the end of the year after a gap in missions of nearly three years following the Challenger Private sector involvement is also increasing in the area of launcher systems. Here Arianspace, e French company with a mixture of private and public disaster in January 1986, will be reserved from now on solely for launching military and shareholders, is battling with three US aerospace companies, other government payloads. Another increasingly impor-McDonnell Douglas, Martin Marietta and General Dynam-

tant factor is a greater understanding of how space pro-grammes can promote technological innovation in ter-restrial industries. ics, for the biggest share of the market for launcher services for non-military satellites. This market, likely to

The view of how this promo-tion comes about is somewhat more sophisticated than in the early days of spacefaring when space projects were said, some-times incorrectly, to be responsible for many pioneering technogical achievements from microchips to hospital equipment

It is now more generally understood that apace pro-grammes working to strict budgetry disciplines can play a part in training significant

inland airports, so that super

Financing also remains par-

ticularly acute. No single com-

pany could afford the \$10bn-.

plus that such an aircraft

would involve. The US aero-

space industry as a whole might be able to undertake the

venture technologically on a

joint industry-wide basis, but would certainly need extensive

Moreover, the US Govern-

ment would probably insist on

the UK and French industries,

the original Concords produc-ers, possibly together with Japan which would have a strong interest in such an air-

craft because of Japan's strate-

have to obtain Government

cash to pursue such a develop

gic Far East location.

Government cash support.

potential market

only over the oceans.

quantities of engineers and sci-entists in important technologies involving areas such as lectronics, mechanical engineering and materials. These people may have a

wider impact not only through, interacting with outside bodies such as companies engaged for subcontract work and university teams which help out on specialist research projects, ut also by eventually leaving their jobs to work elsewhere According to this view of space schemes, the world's big-gest space companies such as Messerschmitt-Bölkow-Blohm in West Germany, Aerospatiale of France and Hughes Aircraft, Martin Marietta and Rockwell

of the US are playing a big part by a series of subtle networking effects in driving technological changes through their. countries' engineering commu-Most of the \$30bn or so a

year spent on space projects in Western Europe, the US, and Japan on space projects is paid for, despite the interest by the private sector in some of these

schemes, by governments. This is partly because of the high level of military involvement - some two thirds of the US's \$28bn a year space budget comes from the Defense Department, with the rest paid by the civilian National Aero-nautics and Space Administration.

Another factor is the gener-Another factor is the gener-ally-hald belief that only gov-eruments are in a position to take the long view of the importance of space operations that is needed if these activities are to be financed.

According to this argument, private companies are interlaboratory (the European con-tribution to the space station), ested in backing projects, whether they be on the ground or 200 miles above it, only if they can see the possibility of a new form of Ariane launche and the French-inspired Her-mes space shuttle.

They will need to undertake

commercial returns within a minute decided to opt for a minor involvement in Comm-

decade or so. For many space projects — the international space station hus - where it will provide 5.5 per cent of the project's cost of about \$4bn - it is not putting decade is a case in point -economic benefits are likely to be realised only on a much longer timescale, if at all.

and other technologies that

any HSCT might require. In the US, the National Aero-space Plane (NASP) X-30 ven-

ture is already under way, pro-viding for nnmanned

development models to fly in 1993. This is to lead to a foll-scale manned vehicle later

in the decade, initially for mili-

tary space missions but even-tually also for commercial

Similar plans for such

vehicles have been studied in the UK - the Horizontal Take-

off and Landing (Hotol) project by British Aerospace and

Rolls-Royce, and in Western Germany the Saenger concept. But the UK Government has

said it does not intend to sup-port the Hotol venture further

space ventur

nt models to fly in

view on this issue with some tenscity, much of it stemming from the involvement in the Hence, it is argued, the need Hence, it is argued, the need to involve government plan-ning and finance in many space ventures, and in particu-lar the space station - which is expected to cost \$20bn-\$30bn and involve the TE Western debate of Mr Kenneth Clarke, the former UK Minister for Trade and Industry, who recently left this job in a govand involve the US, Western Europe, Japan and Canada. ernment reshuffle to become

Minister for Health. This view has failed to strike It is surprising, given the strength of the official UK views on the issue, that virtua chord in the UK Governme a chord in the UK Government which, over the past year, has caused a stir in Western Europe by refusing to show any enthusiasm for a series of ambitious space schemes organised by the 13-nation ally all the other nations with any expertise in this sector go along with the consensus opinalong with the consensus opin-ion that government involvement is essential. European Space Agency.

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

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For example, most observers believe it impossible that who-ever wins the US presidency in the autumn would fail to back These projects, likely to cost about \$13bn by the end of the century, involve construction of the Columbus manued space a strong and determined US space programme with a large element of federal funding.

· . · .

While Britain at the last

up any money for the other

The UK has conveyed its

Poter Marsh

financially, and it is now up to Although designed for more advanced roles than any sec-British Aerospace and Rolls Royce to win support for ond-generation HSCT, these the idea elsewhere. aircraft will apawn all the major advances in power plant The most likely way sheet

for this venture in Western Europe would now appear to be through the European Space Agency, which itself is interested in the long-term po dhali. ties of such earth-to-orbit vehicles. But so far, even the ESA is dependent on govern-ments for financial support.

In the US, however, work is being pushed shead under the Nasp programme, and once the validity of all the advanced technologies in metallurgy, ceramics and other materials, and in fuels and on-board systems has been deomnstrated, the potential spin-off for the development of secondgeneration HSCTs seems likely to become much clearer.

**Michael Donne** 

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**Advanced lessons in Hotol** 

(CMC).

NEW MATERIALS

So far, there are few signs of HOTOL, for space enthusiasts, any such collaboration emergis the space plane that could ing. Athough Nasa is encouragput Britain in the vanguard of als such as resin-bonded com-cut-price satellite launching posities. ing the research, it does not have the budget to fund any full-scale venture, and would sometime early in the next cen-

> But for realists in the British serospace industry it has a more down-to-earth role. It is a test-hed which could belp to pull through much advanced materials technology and asso-clated manufacture, in readiness for new generations of military and civil alreraft.

£20m apiece on aluminium alloys and non-metallic materi-Structural composites are

already deeply entrenched in BAe's thinking, especially for military shrccaft. Use of carbon fibre, established with the Jaguar and Tornado aircraft, has been increasing to the point where the company believes 40 per cent by weight and 60 per cent of the operational surface the next operational

which has spotted a niche in the aerospace market for reinforced thermoplastics is Shrinemark, with its uncrushable tubes made from braided fibres of carbon, Kevlar or

glass. Its process combines timehonoured textile practice with polymer science to make small-bore tubing for aircraft cooling ducts - lighter thanaluminian ducts and more easily installed, file, company claims. The material alas

nance cost by 25 per cent in each case. He believes they can be met 50 per cent by better design, and 50 per cent by better materials.

The new materials on which he is pinning his faith are composites containing ceramics. either as reinforcement or as the matrix or both. They can not be directly substitutes for current alloye because they will behave differently.

"They will demand radical in the way engine components are designed and manufactured." He believes resists slopped Coca-Cola, which can wreak corrosive havoc with aluminium fittings there will have to be a much closer integration of design Dr Bob Jeal, chief of materi-als and mechanical technology and manufacture. Silicon nitride and silicon carbide seem to offer the great-est potential for use in the gas turbine. Above 1,000 deg. C. at Rolls-Royce, forecasts that at Holls-Koyce, forecasts that military demands will lead to an engine built largely of non-metallic materials by the year 2010. He suggests that nearly 60 per cent of the engine would consist of two types of ceramic composite – either MMC or ceramic-matrix composites (CMC). they are stronger than nickel superalloys, more creep-resis-tant, less corroded, and potentially cheaper. They are also much lighter - less than half as dense. Infortunately, they are also brittle, sensitive to flaws and hence unreliable. "The plastic flow which occurs with ductile (CMC). "Continuing development of metal alloys cannot provide the properties needed for the major performance advances required beyond the year 2000," Dr Jeal says. He believes changes in design, materials and manufacturing bachmology materials is not possible," Dr Jeal acknowledges. Nevetheless, he is suffi-ciently confident that these and manufacturing technology will all be required to make the next leap ahead in perfordisadvantages can be circum-vented to forecast that the mil-itary jet engine of 2010 will have a composite compressor and a ceramic turbine. It will His targets include a thrustto-weight ratio of 20:1 and a reduction in mission fuel burn, be, in effect, a non-metal engine. in first cost, and in mainte-**David Fishlock** 

#### under way in the US on what are called "Transatmospheric vehicles" (TAVs) or "aerospace planes" - vehicles that can use existing airfields, soar into earth orbit, and land again like conventional aircraft - is spearheading advances in aero-space technology that could be relevant to supersonic or hypersonic transports.

At the same time, work nov

ond-generation supersonic airliners in quickening. Aerospa-tiale itself, one of the original partners in Concorde, has undertaken studies for such an aircraft, but has so far got little further

nautics and Space Administration has promoted aerospace industry studies to establish the most suitable parameters of any eventual second-generation supersonic airliner, which it calls broadly the High Speed Civil Transport, or HSCT.

Douglas, have already submitted preliminary reports. After studying them, Nasa must decide its next step - either to pursue the research, or drop it. Boeing's view is that the

least expensive aircraft to develop would be similar to Concorde in design, with a top speed of about Mach 2.2 (just over twice the speed of sound or abont 1,200mph), nsing existing types of aviation fuel

gers against Concorde's 100. The company argues that the technical probleme of As a result, interest in sec developing a faster aircraft would lead to higher costs, without offering any significant benefits since much of the time saved in higher cruising speeds would be lost in climbing and descending at subsonic speeds. McDonnell Donglas, how-

In the US, the National Aeroever, prefers a faster aircraft, capable of five times the speed of sound (Mach 5 or about 3,500 mph) over trans-Pacific distances, from, say, New York to Tokyo and Beijing, San Francisco-Hong Kong and Los-An-

The two major manufactur-ers, Boeing and McDonnell

craft's advanced projects manager, believes that by early next century there could be a market for more than 1,000 second-generation HSCTs, pro-vided that such problems as financing and the sonic boom

can be overcome. The sonic boom problem perhans could be overcome by fly-60,000 feet of Concorde, but it could still be a problem at

eles-Sydney. Mr Don Graf, Douglas Air-

HYPERSONIC FLIGHT **Stepping beyond Concorde** 

ment, even with industry supto sharpen their collective some speeds could be reached port. Western Europe, the In major manufacturers, such as British Aerospace and Aeros-

extensive research, produce highly-detailed analyses of patiale, are interested, but have no money, and stress that development and production costs, and whip np the curany HSCT would have to be rently dormant or non-existent vernment financed. But no European govern-

ment, with the experience of Concorde's financial, technological and sociological development difficulties in mind, is so far prepared to support such a venture. Before governments can be.

international collaboration to ersuaded even to consider any reduce the bill and widen the HSCT, the aerospace industries in various countries will have Likely participants would be

#### interest among the airlines. It might be easier to wait for any second generation super-sonic or hypersonic airliner to

approach.

evolve as part of the spin-off from the current efforts in the US to develop the technologically more advanced earth-to-orbit "Trans-atmospheric vehicles" (TAVs), or "aerospace planes."

posities.

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Hotol is a hydrogen-fuelled rocket which sims to burn air for the first few minutes of flight to minimise the amount of liquid oxygen it needs to carry. To do this some difficult

engineering problems must be solved that arise with an atinospheric oxygen intake that grows thinner and colder as Hotol increases in altitude, but hotter as it accelerates.

Rolls-Royce, which has acquired the patents from the inventor, Mr Alan Bond, and has designated the engine RB-545, says it has never consid-ered the engine as anything but a propulsion system for space launches. Nevertheless, the engine technology will advance its experience of high-speed propulsion in the regime Mach 2 to Mach 8. But operating temperatures envis-aged for the RB-545 are little different from those it expects to meet in military engines in the next 20 years.

Rolla-Royce engineers Rolla Royce engineers believe bigger advances in materials technology will be demanded of the airframe engi-neers, who must seek to min-imise the weight. Hotol, although expected to improve on the poor payload-to-weight ratio of current satellite launchers, with only about 1 per cent of their launch weight as payload, is still rated at best as payload, is still rated at best only at 3-3.5 per cent. It is expected to take the best

endeavours of the materials technologists of British Aerospace to achieve such a figure - still only half what Concorde achieves.

To achieves. To achieve the target pay-load to-weight ratio, much of the airframe would be made of either carbon fibre composites or metal matrix composites, with nickel alloys needed to withstand temperatures exceeding 1,700 deg. C expected to be found at the vehicle's fin.

"In an engineering company, the main concern is the acqui-sition of sufficient knowledge about the materials to enable the designer to form them into artifacts with high confidence in the ultimate performance," says Dr Robin McEwen, head of materials science research at BAe's Sowerhy Research Centre, near Bristol

Centre, near Bristol. Dr McEwen says his com-pany has responded to reduc-tions in the E&D effort on new materials hy the defence research establishments in Britain, by establishing Sow-erby as a corporate research laboratory "to address long-term basic issues in mate-tials and other research." BAe is a big customer for

BAe is a big customer for advanced materials, spending about £100m a year on top-quality materials, including

airframe - for the European Fighter Aircraft - could be made from carbon fibre comin aircraft galleys.

name from carbon faits cour-posites (CFC). Reinforced metals, also known as metal matrix com-posites (MMC), have improved to a point where they now offer airframe designers dramatic enhancement of strength com-pared with un-reinforced met-

Dr McEwan says: Many components of the current range of civil airliners have been identified as suitable for MMC." In the case of the Air-bus, these include body skins, slat (flap) tracks, and wing and engine struts. Snch conclusions have led

British Petroleum to believe that advanced engineering materials are destined to become what Dr Robert Mal-pas, its technical director, calls a mega-business of the next mance.

a mega-bisiness of the next century. BP has mounted a major R&D effort into MMCs. Dr Malpas says a Hotol proj-ect could provide an excellent focus for companies to collabo-rate in the development of

advanced aerospace materials. Dr Stephen Bold manager of BP's advanced materials R&D at Sunbury-on-Thames, identi-fies four types of MMC: • Melt-infiltrated refractory

fibre - which can be used to make modest improvements in the high-temperature strength of aluminium alloys, by die-casting them round a preform of refractory wool (such as BP's own Fibrefrax);

• Particle-reinforced com-posite – which can be used to make modest improvements in strength but big improvements in the stiffness of aluminium alloys, by adding silicon car-bide grit to the cast or powder-formed methy formed metal; • Whisker-reinforced com-

posites - which are similar to particle-reinforced composites but are more difficult and therefore more costly to make;

 Continuous-fibre compos-ites - which can greatly enhance strength, stiffness and high-temperature properties of titanium as well as anominium alloys, but are costly, currently ALOYS, but are costly, currently exceeding £1,000 per kilogram. Dr Bold says the continu-ous fibre MMCs will find mar-lets in the least price sensitive sectors. such as space and defence. Reinforced aluminium will be used as struts and stiff-mark in shiftware wills the eners in airframes while tita-mum MMC will be used for hlades, discs and sbrouds in ero-engine gas turbines. BP is making monofilement

BP is making momentaneous reinforcement and developing composites, but he believes Avco in the US is the front runner in the field today. A small start-up company



FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988 . . . .

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DESPITE GROWING pressures to cut defence budgets in the Western world, it seems likely that spending on military air-craft will remain high throughout the remaining years of this" century.

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As THE Pace

One estimate, prepared by British Aerospace, is that between now and the year 2010, some 22,000 combat and jet trainer aircraft will be delivered, worth (at today's prices) about \$550bn. Nearly 9,000 of these are

already committed, either for existing orders, or through plans for such major "next gen-. eration" programmes as the European Fighter Aircraft (EFA), and the Advanced Tactical Fighter (ATF) for the US US Navy. In fact, nearly 5,000 of these committed deliveries are for aircraft of US design right, especially with the two

latter aircraft. Over the same timescale, it estimated that soma 3,200 about half of them in the C-130 Lockheed Hercules size bracket for that four turbo-prop engined aircraft has been one

ONE OF the most significant maiden flights in aviation history is expected to take place this antumn at Fort Worth, Texas, when the world'a first production "tilt-rotor" aircraft leaves the runway.

leaves the runway. This unique aircraft, called the V-22 Osprey, is under full-scale development by Bell Helicopter Textron of Fort Worth, and Boeing Helicopters of Philadelphia, for the US armed forces, under a \$1.81bn contract.

The aircraft has two Allison, T-406 turbo-shaft engines, each-with a large rotor, mounted at the end of each of its stub wings. The engine/rotor units can be tilted (with the wings remaining stationary) to allow vertical take-off and landing like a heliconter; but once the aircraft is airborne they are tilted to the conventional propeller position for forward flight.

The result is an aircraft of exceptional operational flexibility, capable of combining the vertical take-off and low speed characteristics of helicopters with the speed. — up to more than 360 mph — of a tur-bo-prop aircraft. The range on full payload will be over 500 nautical miles.

With such a performance, it is claimed that the Osprey canfulfill a wide variety of mili-tary requirements as well as civil aviation needs. For exam-

in this should be a

of the great success stories in military transport production, with more than 2,000 sold and production continuing even while the search for a suitable replacement has yet to reach a

conclusion. This demand for transports (including special-purpose types such as Airborne Early Warning Ancraft, anti-subma-rine warfare afforatt and tank-er-transports for aerial refuelling purposes), is likely to amount to an additional \$150bn at today's prices. As a result, total military sircraft spending seems likely to amount to some \$700bn up to the year

2010. 2010. If is estimated that the current world inventory of combat. Air Force and the Advanced and jet trainer aircraft stands. Tactical Aircraft (ATA) for the \_\_\_\_\_ at about 29,000 aircraft. Most of the first generation of post-war jet fighters have now been phased out, and many of those aircraft now in service are jet fighters of later vintage.

But many of these will need to be replaced over the next decade or so, not so much because they are ageing indeed, many of them still have considerable service lives ahead. - but because they have been overtaken by the

ple, it will be an answer to the increasingly serious congestion problems at airports worldwide by making air services available at city-centre heli-ports or specialist tilt-rotor "verti-

ports." The success of the tilt-rotor aircraft in its initial military role is likely to speed its accep-tance for commercial use. Ini-tially, however, Bell-Boeing are developing it under a US Navy contract. Six prototypes will be built, but eventually nearly 1,200 V-22s are expected to be used by all the US armed

forces. The US Navy is buying 50 for search and rescue, logistical support and special warfare; the US Marines 552 for amphibious troop assault and support; and the US Air Force will take 50 for special operations. In addition, a further 300 Ospreys for naval anti-subma-

rine warfare are planned, while the Army may buy up to 230 for special operational mis-sions and medical evacuation. First deliveries are due in the early 1990s.

Other countries are studying the concept. In the UK, British. Aerospace is associated with Bell-Boeing in tilt-rotor studies, initially for military use, but with eventual civil applications also in mind, nautics and Space Administra-while Bell-Boeing is also work- tion (Nasa) and the Federal ing with Dormier in West Ger-

## **Eurofighter sustains jobs**

Military spending will remain high into the next century

development of avionics and engine techonologies and are thus no longer suitable for frontline service with the super powers, However, many of them can.

and will, find uses in supporting roles or in the air forces of smaller countries.

At the same time, there is a diverging trend in military aircraft design. At the top end of the scale are the costly and complex highly advanced supersonic air-superiority fighters (such as the ATF and the ATA mentioned above). There will be comparatively few individual types of such aircraft developed in the remaining years of this cen-tury, because of their vast costs, but the production runs

in each case are likely to be substantial. Beneath those aircraft, however, there is an expanding market for smaller, cheaper and less sophisticated light

BAe's studies include Special Operations Warfare/Rapid Deployment, where tilt-rotor

estimated spending of \$550bn will be on this type of aircraft. In Western Europe, the longrunning Tornado remains a' major programme, with several

years of quantity production to run. Athough 809 aircraft were originally ordered, subsequent additional orders for both export and to meet increased requirements from the UK. West Germany and Italy have already increased the total to 933, and further contracts in negotiation seem likely to eventually to lift Tornado production to well over 1,000 air-

One major new order in prospect is that for additional Tornados for Saudi Arabia, under the major defence procurement Memorandum of Understand-ing signed with that country in

TILT-ROTOR FLIGHT

All eyes on Osprey

management agency running the Tornado programme on behalf of the member-governments had asked Panavia, the prime manufacturer on the programme, to quote for a further batch of 100 Tornado aircraft, comprising 26 Interdicter Strike (IDS) models and 15 Air Defeoce Variants (ADVs) for the RAF, 35 IDS for the Luftwaffe, 16 electronic combat and reconnaissance (ECR) vari-ants for the Italian Air Force and eight IDS for the Royal Jordanian Air Force.

The most significant military aircraft development on this side of the Atlantic in recent months, however, has been the formal go-ahead for full-scale development of the European Fighter Aircraft (EFA or Euro-fighter) by the Governments of

combat aircraft - the British Aerospace Hawk 200 is a clas-sic example - for battlefield support in particular, and it seems likely that much of the combat aircraft - the British already buying 72 Tornados in an earlier defence deal. It was also revealed earlier this summer that the Nato industries of all four countries fully employed through into the cext century. Eurofighter, and its associated EJ-200 engine, will gradually replace current Tornado work as the

latter runs down. Work on the Eurofighter airframe is under the management of Eurofighter Jagdflug-zeug, based in Munich, set up by Messerschmitt-Bolkow-Blohm, British Aerospace, Aer-italia of Italy and Construcclooes Aeronauticas SA (Casa) of Spain.

The EJ-200 engine for the air-craft is being built by Eurojet-Turbo, set up by Rolls-Royce, Motoren- and Turbinen-Union (MTU), Fiat Aviazione of Italy and Sener Ingenieria y Sistemas of Spain.

The development programme

of the Eurofighter will centre on the construction and flighttesting of eight prototypes, including two trainer versions. A further two airframes will be

built for ground tests. Each natioo will build at least one prototype to gather experience of final assembly before going into full production. The British Aerospacebuilt EAP (Experimental Aircraft Programme) advaoced techoology demonstrator air-craft, which first flew in 1986, will be used as a "flying test rig" to support EFA develop-

ment. The EFA is due to enter service in 1995. Development costs will be shared 33 per ceot each by Britain and West Germany, 21 per ceot by Italy and 13 per

cent by Spain. The French rival to the

ners, although it has offered Belgium a 10 per cent share in 2001.

and is also wooing Spain. The Rafale will be flying at the Farnborough Air Show. Possible new ventures io

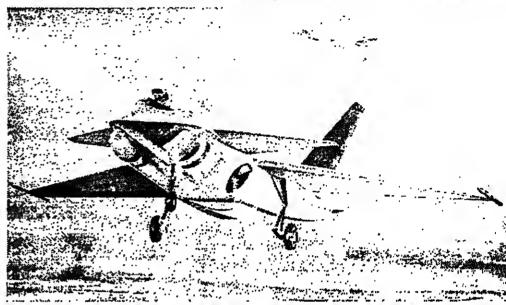
VII

military aircraft for the future beyond the EFA include supersonic derivatives of the existing Harrier vertical take-off and landing fighter (Vtol).

Rolls-Royce, British Aerospace and McDonnell Douglas of the US have been studying both the possible airframe designs and engine types that might be suitable for such an aircraft, but so far no firm decisions to go ahead with such a venture have been taken.

However, such a develop ment from the Harrier stable could face a competitor from elsewhere in the US industry. Lockheed has disclosed that under the first phase of a twophase contract from the National Aeronautics and Space Administration, the Lockheed Acronautical Systems Company (LASC) is developing a "conceptual design" for a supersonic short take-off and vertical landing (Stovl) fighter for the year

Michael Oonne



Artist's concept of a Lockheed supersonic STOVL (short take-off, vertical landing aircraft) lightor aircraft for the US forces in the 21st cantury. It would have a single vectored-thrust engine that diverts air downward and use composite materials extensively in the airframe.

600 nautical miles. Eurofar is run. well behind the Bell-Boeing tilt-rotor though, largely because it has no government funding as yet, and initial deliveries are not planned before the end of the century.

The future of the European venture clearly must depend upon governmeots becoming interested in it as a possible military vehicle, unless a commercial airline or other potential user becomes involved.

**Michael Donne** 

This has examined the use of tilt-rotors in a wide range of sizes carrying from eight to 75 needed. passengers, covering operations in such markets as high-density metropolitan and

low-density population centres, cargo/package express operations, public services, and resources development.

In such roles the civil tilt-rotor is regarded as a unique vehicle with a large market potential, superior to multi-engined helicopters under most operating conditions.

mate success with civil tiltro-tors must depend heavily on success in the military market, with defence funds bearing the brunt of development costs.

The study team also stresses that some additional work is needed to maximise the tilf-rotor's competitive economics, through the application of advanced technology and inno-vative design. To ensure this, a national civil tilt-rotor transport plan, including suitable infrastructures such as vertiports, and a technology demonstration programme, are

The FAA has embraced the tilt-rotor concept with enthusi-asm. Earlier this summer, Mr Alan McArtor, the administra-tor of the FAA, said he believed the FAA would be in a position to certificate commer-cial tilt-rotor type aircraft for flight demonstrations as early as 1992-93.

This is based on an agreement between the FAA and the US Department of Defence to give FAA access to military technology on tilt-rotors, thereby saving "five to eight years" in tha civil certification

The FAA has set up a civil tilt-rotor co-ordinating office, reporting directly to Mr McArtor, to facilitate all FAA activi-ties in tilt-rotor developments, while the FAA has also allocated £3m for tilt-rotor research and development, including planning for instrument approach procedures to verti-ports, airborne systems,

tilt-rotor is already being stud- 30 passengers at about 300 pating companies, of which ied in Western Europe, by a knots over distances of some about two years has still to consortium called Eurofar (European Future Advanced Rotorcraft), which includes Aerospatiale of France, Aeritalia and Agusta of Italy, Mes-serschmitt-Bolkow-Blohm of West Germany, Westland of

air traffic control procedures the UK and Casa of Spain. A rival to the Bell-Boeing craft is designed to carry about study financed by the partici-

better than any helicopter,

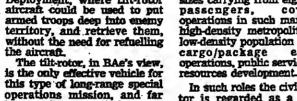
the aircraft.

which would have less range and payload, and be slower. In fact tilt-rotors could eventually rival large helicopters in a wide range of civil and military

In Japan, Bell-Boeing have signed a pact with two leading trading companies, Mitsui and

C.Itoh, to assess the military tilt-rotor markets in that com-Extensive civil studies have also been conducted in the US, by a Bell-Boeing team supported by Boeing Commercial Airplanes, the National Aeronautics and Space Administra-

Aviation Administration (FAA).



But it is recognised that ulti-

Drocess.

Eurolighter, the French Dassault Rafale, has won a French Governmeot cootract for five prototypes, three for the Air Force and two for the Navy, with the first due to fly in

early 1991. But Dassault has not yet woo any ioternational part-

the development programme,

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Under the new system, aircraft will fly in "tunnels in the sky". In each "tunnel" oll oircraft will fly in the same direction in the chorge of one controller. In this way, the new technology will reduce the centrol runchon, THIS IS POIN OF THE WAYS THONY THINNAN AT MAN Under the new system, aircraft will fly in "tunnels in the sky". In each "tunnel" oll oircraft will fly some direction in the chorge of one controller. In this way, the new technology will reduce the warkload on controllers so that they can safely hondle more traffic. The result when the system is fully installed, will be greater efficiency with higher levels of safety times ourney times able to climb to operational heights more quickly, reducing journey times same direction in the chorge of one controller. In this way, the new ti warkload on controllers so that they can safely hondle more traffic.

when the system is fully installed, will be greater efficiency with higher levels of safety thon result. When the system is fully installed, will be greater efficiency with higher levels of safety times and arconf will be able to climb to operational heights more quickly, reducing journey times approxing economy approxing economy above CAA would at the Fambamunk Air Shaw you'll be welcome to see for vaurself how the new On the CAA stand at the Famborough Air Shaw you'll be welcome to see for yaurself how the new system will wark. Even if you con't come to Famborough, write to us for o free booklet at the On the CAA stand at the Famborough Air Shaw you'll be welcome to see for yaurself how the system will wark. Even if you con't come to Famborough, write to us for o free booklet at the andress below. and inproving economy

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#### **AEROSPACE 8**

Higher development costs are forcing companies to collaborate

## More missile project links

THE GUIDED weapon sector of the world eerospace industry has entered a stage in its evo-lution where missiles are becoming more intelligent, autonomous and deadly.

They are also becoming much more expensive to develop and few of the latest guided weapon projects are controlled by a second se controlled by single companies. The emphasis in the West is

on multi-national developments in missile technology. but as some of the biggest and most important joint missile programmes demonstrate, reaching full agreement between the partners is difficult. As a result, standardisa-tion of missiles among Nato members is still a long way off.

At the same time, the missile manufacturing sector is changing, with growing missile man-ufacturing cspabilities developing in several countries including Japan.

Two of the most important current missile programmes illustrating these developments re the linked projects for the European advanced short-range air-to-air missile advanced (ASRAAM) and the US advanced medium-range air-to-air missile (AMRAAM).

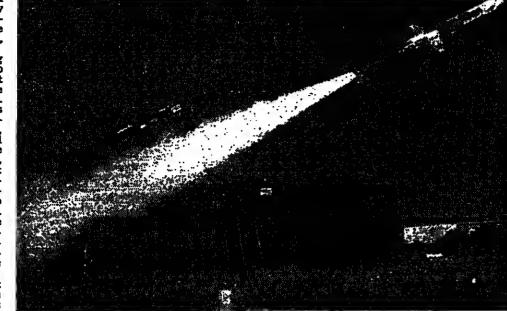
Both missiles are likely to become the standard air-to-air guided weapons for Nato into the 1990s and the next century, involving high-volume production, running into several thousand missiles

The missiles are designed to be of the "fire and forget" type and will operate autonomously once fired from an aircraft. AMRAAM can hit targets beyond visual range.

The development of ASRAAM is a joint project involving the governments of the UK, the Federal Republic of Germany and Norway. The aim is to produce in Europe a new short-range missile for arming fighter aircraft to meet a Nato reoutrement

ASRAAM is to replace existing short range air-to-air mis-siles such as tha US Sidewinder and to provide Nato air forces with an agile fire and forget missile based on advanced infra red sensing technology and fitted with an infra red proximity fuse. The wingless missile, essentially a simple tube with small fins at the rear and a seeker head at the front, will be capable of being fired from aircraft at large angles off the boresight

of the aircraft. The lead contractors nominated by the governments are British Aerospace, Bodenseew-erk Geratetechnik and Raufoss Ammunisjonsfabrikker. The project definition phase for ASRAAM was completed last



Performance trials of the Canadair CL-289 surveillance drone being carried out by the West German Army. Fired from a truck launcher, it is powered by a turbojet angine

missile is expected to begin shortly.

involve

A number of other European companies and Garrett Manu-facturing in Canada are also dum was signed in 1984 to

Initially, a joint company, BBG, formed by Bodenseewerk Geratetechnik and British Aerospace, was responsible for managing the project. This changed last month when British Aerospace was nominated the prime contractor for ASRAAM. The BBG company

ceased to operate. BAe said the decision was made "to obtain a more balanced partition of responsibil-ity among the European part-ners in armament programmes." EURAAM, a UK joint ven-

ture company involving Mes-serschmitt-Bolkow-Blohm and AEG of West Germany, BAe and Marconi Defence Systems, is likely to go to Germany. EURAAM was formed last year **US AMRAAM International** to compete for European manufacture and support of the US advanced medium range air-to-air missile, AMRAAM, produced in the US by Hughes and Raytheon.

The award of the prime contractor role for ASRAAM to British Aerospace and the likely transfer of EURAAM to European ASRAAM under the terms of the MoUs. West Ger-Germany, effectively puts BAe into the lead position on the short-range missile and Germany and Britain are almost certain to want to fit the AMRAAM to its squadrons of many into the lead position in Europe on the US medium-Eurofighters, to German Phanrange missile.

standing was signed by the US, the UK and West Germany as The question is, where will these missiles come from, the US or indigenous European participants and France as observer. A second memoransources?

One of the most important wholly European missile pro-grammes is the tri-national bring Norway into the proplan for a third generation of medium and long-range anti-tank missile systems. The go The MoUs were the first between the US and European NATO members for a family of ahead for the missiles came earlier this summer when the veapons, with ASRAAM to be developed in Europe for Europe and the US and AMRAAM to be developed in French, British and West German governmments signed two memoranda of understanding the US for the US and Europe. Although ASRAAM is a joint to launch full development of project involving the govern-ments of Britain, Germany and Norway, the memoranda of the missiles. The signature was welcomed

by Euromissile Dynamics group (EMDG) and its parent understanding, signed also by the US, allows for the produc-tion of ASRAAM in the US as companies, Aerospatiale, British Aerospace and Messer-schmitt-Bolkow-Blohm, Tha well as in Europe. AMRAAM production for the European members of Nato Euromissile group is in effect the focus for an emerging may be in Europe, provided suitable terms can be negoti-ated between EURAAM, or its European-wide guided missile industry, as each country seeks to share the costs of successor in Germany, and the developing future weapons.

The anti-tank missiles are expected to enter service in the mid-1990s. The medium-range Licencing Company, the joint venture between Hughes and Raytheon, the second US missile will rida on a radar source of the missile. The US companies would. beam to the target. The long-range missile will be probably prefer to sell US-made AMRAAMs to Europe even though the US remains undeattonomous after lattach and find its own way to the target. The French and German defence staffs have chosen this missile for the PAH2/HAC comcided on whether to buy the bet belicopter under develop-

Guided missile technology is not restricted to members of Nato. In Japan, the Nissan Motor company, famous for gation for Armament.

bility for several years and decided in June to incorporate "weapons" in its articles of association. These weapons will include

rockets and missile propulsion rockets and missile propulsion systems for Japan'a self defence forces. Nissan's sales of military equipment accounted for less than one per cent of its turnover last year, but the company plane to hut the company plans to increase this to more than 10 per cent. Nissan also wants to take part in the US strategic defe nce initiative, the "Star Wars" programme. In the US, the Army is con-

sidering a fire and forget ver-sion of the Martin Marietta Copperhead anti-tank guided projectile, which will seek its own targets independently. The present Copperhead is fired from conventional 155mm howitzer guns.

Intended targets are illumi-nated by laser from helicop-ters, remotely piloted vehicles or ground based units and the Copperhead projectiles then aircraft movements could not be solved with the use of advanced radars and high-speed data transmission and other information systems. home in on the laser energy. Martin Marietta is to produce 3,600 of the weapons under two recent US Army contracts, totalling \$122m. This

The overall problem of rising costs is probably the most seri-ous issue confronting the avi-onics sector of the entire zerowill extend production of Cop-perhead into 1990.... In the field of anti-missile missiles, the US and Israel have been discussing a memo-randum of understanding for the int derukament of an space industry. The cost of research is rising as answers are sought for increasingly the joint development of an anti-ballistic missile. The new missile is code-named Arrow complex operational and tech-nological problems, while the costs of translating those and the US is considering put ting up 80 per cent of the esti-mated initial cost of \$400m for the short-range missiles, which ware for incorporation into military and civil aircraft are also increasing. One has only to recall the soaring costs of the original UK ainborne warning and conare due in service in the early

1990s In the political sphere, the US and the Soviet Union have agreed to the destruction of all intermediate and shorter range nnclear missiles in Europe under the terms of the intermediate nuclear forces (INF) treaty This was the first time any

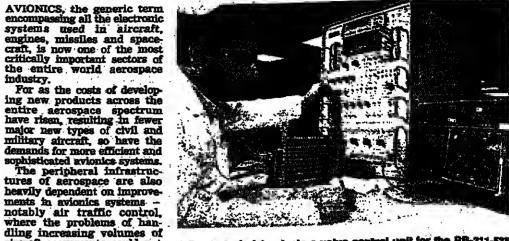
category of missiles had been negotiated out of existence, but already the UK is considering upgrading its nuclear forces with an air-launched stand-off missile to be delivered from Tornado bombers.

The UK and France have had a series of meetings on this proposal, with the French keen to offer its own ASMP nuclear stand off missile for further development to meet British requirements for an extended range stand-off missile.

France is to fit the ASMP to its Mirage 2000N aircraft and to Super Etendard carrier home aircraft to form a new pre-stra-tegic nuclear arsenal, formely the French tactical nuclear

years of this century. Commenting on this prob-lem, the Editor of Jane's Avi-Also in France, Matra recently received its first pro-duction contract for the Misonics, regarded by many as the "bible" of the avionics indus-try, has said that "of all the tral very short range, infrared industries which serve to employ man, defence electron-ics, and in particular avionics, guided ground-to-air missile, from the French General Dele**AVIONICS** 





FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

chnician tests a valve control unit for the RB-211-535 A Dowty to engine, which powers the Boeing 757 twin-jet airliner

equipment it contains, avionics accounts in turn for at least

half, if not more, of that. - Figures issued by the Society of British Aerospace Compa-nies show that during 1987 the avionics industry in the UK contributed directly no less than £358m towards overall aerospace exports, and this fig-ure does not include those avionics systems incorporated into the aircraft, engines, missiles and spacecraft exported. One of the reasons for the increasing emphasis on avionics is that, despite the costs involved, upgrading avionics systems can often save tha manufacturers of civil and mil-

by avoiding the development ontlays of entirely new airframe This does not entirely eliminate the need for new ahframe designs - sooner or later the evolution of the threat inevitably requires the development of an entirely new air-frame/avionics nackage, as is evidenced by the European move towards a new multi-na-tional combat aircraft - the Eurofighter - but it does help to cut the number of such new developments.

itary aircraft substantial sums,

bus A-330 and A-340 airliners. Without such links, some But as a result, "mid-life updates" of existing combat companies would stand little chance of winning any new business, and it is possible that where either individual compaaircraft are now a regularly recurring feature of defence budgets that are either being nies or combinations of companies do not win specific con-tracts, they could face a bleak reduced, or are under considerable pressures to provide betfuture through the remaining

ter value for money. Similarly, in commercial avi-ation it is now common for one particular aircraft type to be turned into a family of deriva-tives, to meet the changing while this often involves some changes to airframes, especially by lengthening fuse-

deck personnel, yielding significant long-term cost-savings to airlines.

The two-pilot crew is now common, whereas previously there was also a flight engl-neer, much of whose role has been superseded by on-board computers and, in the latest developments, by fly-by-wire

control systems. In the latter, the conventional mechanical systems of controlling an aircraft's aile-rons and elevators have been replaced by electronic systems governed by a master com-

In the Airbus A-320, this has been accompanied by the aboli-tion of the conventional control columns on the flight deck. and their replacement by "side-stick controllers" --small knobs set to one side, which give tha pilot much more work-room and therefore physical comfort.

The fly-by-wire system origi-nated in military sircraft, and especially in the British Experimental Aircraft Programme (EAP) which is the forerunner of the multi-national European Fighter Aircraft (EFA).

So far, fly-by-wire in com-mercial aircraft is limited to the A-820, and other manufac-turers are waiting to see how it performs over a period of time before committing themselves

Doubts about fly-by-wire sur-faced earlier this summer when an A-320 crashed while on a low-level demonstration flight at Habsheim Airport near Mulhouse, France, but at time of writing and subject to the final accident report, the crash appears to be attributable to causes other than any faults with the aircraft's electronic systems.

last year and full development and initial production of the

The ASRAAM project has tom fighters and UK Sea Harribeen under way since 1980, tors. when a memorandum of under-

ers and Tornado F3 intercep-

## MANUFACTURING TECHNOLOGY Better fastening methods

THE DRAMATIC demand for new aerospace materials in the next decade or two will be matched by changes no less revolutionary in manufactur-ing methods.

The new materials will be fashioned and joined by quite different metbods, and will often be made as single sub-assemblies instead of being assembled from discrete parts. Some of the most striking

examples of change are to be expected right in the core of the gas turbine. As recently as 1960 steel accounted for about 60 per cent of the weight of an acro-engine, With the introduc-tion of more nickel alloy and titanium alloy, steel content has fallen to less than 20 per cent today.

But the complexity and cost of manufacture of such components as turbine blades has risen steadily, not least because of the labyrinth of air cooling channels bored through these parts to allow them to survive modern engine conditions. Ceramics could lead to a big

simplification in manufacture as well as in engine design, by tolerating high temperatures without forced cooling, as well as permitting a marked improvement in engine effi-ciency because the air now being bypassed for cooling can be used to create thrust.

Dr Bob Jeal, Rolls-Royce's chief of materials and mechanical technology, says engineers in future "will not choose a metal alloy best suited to the temperature and stress levels of a particular component. They will decide the temperature and stress levels needed by a component for a new engine and will then design a material to meet the requirements."

Fibre-reinforced components, foreseen for both engines and airframes of the future, can be designed for minimum weight by providing increased strength in the direction in which it is required. Although fibre-reinforced thermoplastics have not yet penetrated to the core of the engine, because of a of only 180 deg. C., Dr Jeal believes their introduction is only a matter of time.



Boeing-Vertol technicians building the graphite/epoxy side trames, which combine strength with lightness, for the V-22 Osprey tilt-rotor alrcraft, which shortly makes its malden flight

The other is identifying the source of strength-limiting defects and developing mann-facturing processes to elimi-nate them. This is not so easy, he says. The critical defect size for ceramics is only about one-hundratch of the critical defect As for the high-strength ceramic materials emerging for the future military engine, two approaches have emerged in the past decade. One is learn-ing to live with the brittleness. and developing an understand-ing of the failure micro-me-chanics of ceramics; that is, flaws and their relation to strength. With this approach hundredth of the critical defect size for a metal at typical operating stresses. Rolls-Royce has bench-tested ceramic blades, turbine shroud statistical methods and non-destructive or proof-test tech-niques could be used to specify design requirements such as

Jeal says.

rings and air bearings in an experimental helicopter engine, but has not yet flown ceramic components in an engine core, its executives say. strength or component life, Dr

Early airframa structures of carbon-fibre composites, such as those for the Jaguar, relied on mechanical fastening of wing skins to ribs. But a newer manufacturing process is to co-bond one wing-skin to carbon-fibre composite (CFC) spars without fasteners, in an autoclave. This has been dem-onstrated by British Aerospace for the wing of the European Experimental programme (EAP). It can produce a saving in weight of nearly one-third, the company claims.

Other savings already achieved by the company's novel manufacturing and assembly methods with carbon fibre include 24 kilograms compared with metal for the Tor-nado taileron ( 16.4 per cent), 82.2 kg for the Jaguar torsion box (12.8 per cent), 81 kg for the Jaguar wing (9.1 per cent), and 7.8 kg for Jaguar panels (29.6 per cent).

Mr Ivan Yates, BAe's deputy chief executive (engineering), in his Wilbur and Orvilla Wright Memorial Lecture, said that in support of the EAP his company was exploiting the opportunities presented by the long production run for tha tornado. Thay included changes in work practices and wage structures, and removal of artifical barriers between design, development and man-ufacture. BAe also modernised its machinery. In particular, nnmercially controlled machines were linked to a cen-tral mainframe computer, itself fed from the drawing office CAD/CAM systems. The aim was to reduce costs at all stages in the design, developent and production process." Precision optical components

such as mirrors for aerospace are beginning to attract the devoted attention from manu-facture hitherto the preserve of aerospace alloys and compos-ites. New, automated methods for shaping high-quality optical components much faster, need-ing less skilled people, are being demonstrated in a labo-ratory in Albuquerque, New Mexico.

According to Aviation Week, the development optics facility operated by Martin Marietta for the US Air Force Weapons Laboratory at Kirtland Air

cars, has been quietly develop-ing a defence equipment capa-Lynton McLain

Force Base "is pioneering in new technology with applica-tions in strategic defence and other systems requiring preci-son optics". The aim is to reduce dependence on lengthy hand-polishing hy "master

hand-polishing hy "master opticians". For example, a diamnd cut-ting tool is being used to machine surfaces to an accu-racy of a few millionths of an inch. It operates from an air-bearing table and has a laser-guided positioning system to measure the position of the diamond tip relative to the mir-ror. It is said to produce an optical mirror surface in only 80 minutes, where hand-polish-ing needs two or three months to achieve the same finish. The

to achieve the same finish. The director of the facility is quoted as saying: "we're going from making optics the old-fashioned way into some-thing we'll turn around like

hubcaps. **David Fishlock** 

dollars, pounds and francs than any other", with billions of monetary units being spent purely on research to ensure that one company can either keep up with or leapfrog another.

probably turn more skills into

answers into functioning hard-

trol system, eventually can-celled in favour of procure-ment of the US Boeing AWACS system, to recognise just how difficult and expensive the

solution of complex avionics problems can be.

types of equipment companies, to overcome the problem many avionics companies have either

merged, or are combining with their counterparts in other countries to bid for specific

contracts on major new ven-tures, such as the European Fighter Aircraft and the Air-

As a result, as with other

However, this vast amount of research provides some esoteric products, "many of which are late and over-budget sim-ply because the technological challenges are so great and are growing so fast," Jane's declares.

"No sooner has a project started with a certain goal than technology bounds onwards, so the project has to leap even faster just to keep pace. Why does it have to keep pace? Well, if your company or air force doesn't, someone else's will, and either way you're out of business."

Nevertheless; overall the avi-onics industry is exceptionally busy. It has been estimated that, with close to one third the cost of a new military or civil aircraft being accounted

lages to accommodate more Looking ahead, further passengers or fuel or both. it is equally frequently achieved by upgrading avionics and other systems to improve performance. One significant development

in this respect is the emer-gence of "Erops" - extended range operations overwater whereby twin-engined aircraft such as Boeing 767s, 757s and even 737s, as well as Airbuses, can fly extended distances non-stop over oceans that were originally regarded as the exclusive preserves of three and four-engined airliners, largely because of improve ments to navigation, engine

control and other avionics Also, in commercial aviation, the introduction of computer-ised "electronic flight information systems" (or Efis), coupled with colour cathoda ray dis-plays of information on the flight deck, replacing the myriad dials that once were a common sight, is not only easing pilots' workloads but also

for by all the systems and resulting in reductions in flight

Just how far this type of avionics revolution will go in the field of commercial aviation is debatable. The recent issue of Jane's Avionics commented that the time might well come when "an avionics system could he developed which

would fly an airliner automati-cally and safely on a planned route."

However, it added that it would be "a very brave person who boards the first unmanned transatlantic Boeing 797 or Airbus 370!"

Michael Donne

Lynton McLain.



Boeing 757s being built at Seattle. Production of this medium-range twin-engine aircraft is to be models, as the company tries to reduce its backlog and speed delivery to the airlines

confined entirely to military aircraft, but it seems likely that eventually it will spread into commarcial aviation, though it may take some time to do so.

Many things can happen to a promise.

A promise can be broken.

It can be ignored.

Or simply forgotten.

A promise can be put on the back burner.

It can be attributed to someone else.

Or just lost in the shuffle.

A promise can become procrastination.

It can become puffery.

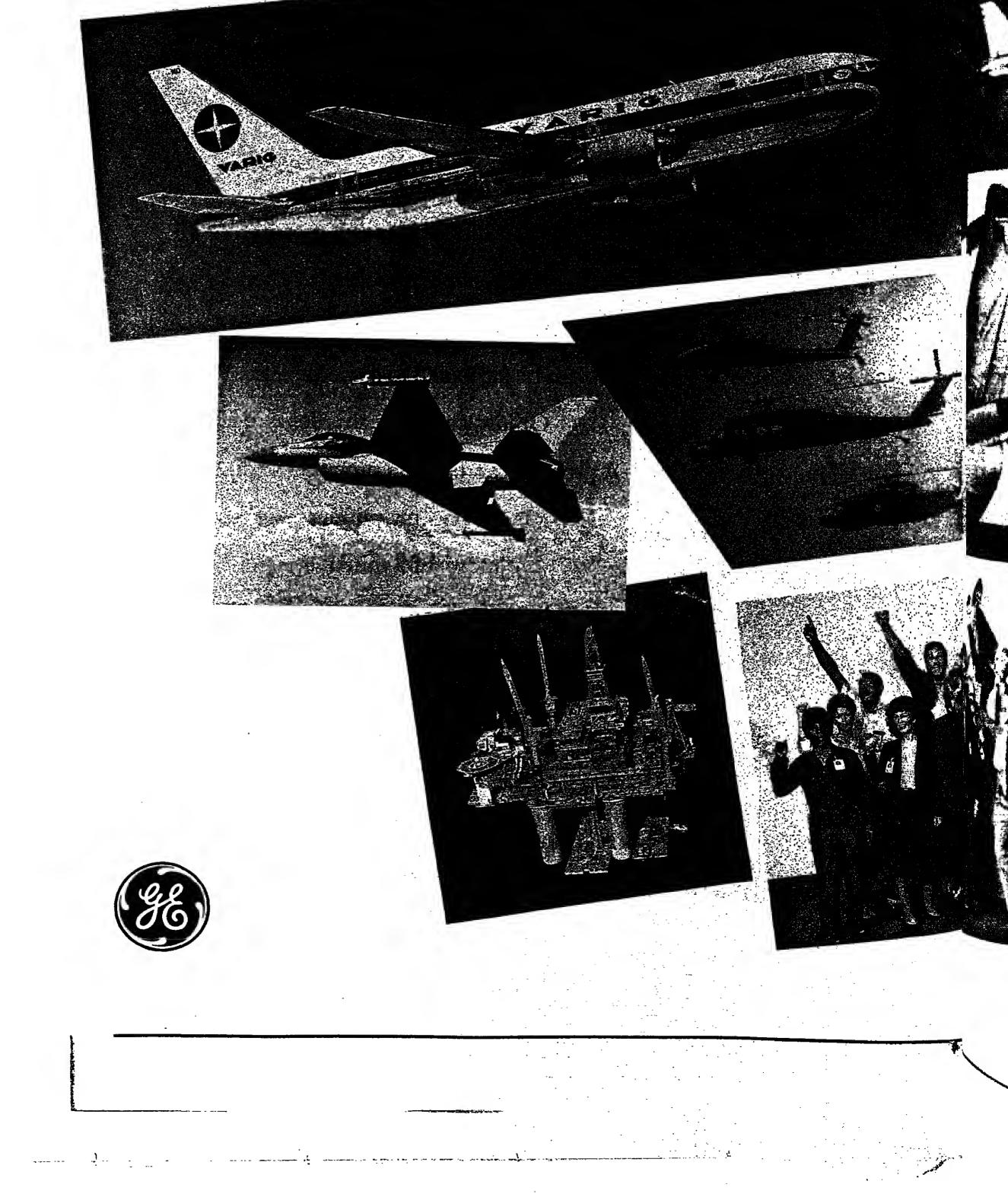
Or just wishful thinking.

Of course, there is one more

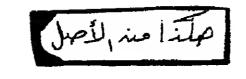
thing that can happen to a promise.

A promise can be kept.

# Keeping the



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We kept our promise of reliability for our commercial customers with the CF6-80C2—the only new generation engine in its class with FAA approval for 120 minutes of Extended Range Operation over water for the new widebody twins.

## 2.

We kept our promise to fighter pilots with engines that make good fighters great fighters. Both our F110 and F404 have added new responsiveness and durability to the service performance of the world's most sophisticated fighter aircraft.

## 3.

We kept our promise to make the most reliable helicopter engine. Right now, the T700 is setting new standards all over the world. Derivatives of this proven engine are now in production. They deliver 30% more power, with room to grow as our customers need it.



We kept our promise to our marine and industrial customers

with the LM2500 gas turbine—an engine so durable, some units have been in service for over ten years without an engine-related shutdown.

## 5.

We kept our promise to revolutionize subsonic flight with the next generation of fuel efficient engines, the GE36—an unducted fan engine that cuts fuel consumption by up to 40%.

## 6.

We're keeping the promise of unsurpassed product quality and service support with a worldwide network of dedicated GE people who have never forgotten that the customer is number one.

> **GE Aircraft Engines** Keeping the Promise

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AEROSPACE 12

The balance of the US aerospace industry is shifting

Civil orders set to rise

the Pentagon will be buying fewer military aircraft this year than it did a year earlier. This stark fact symbolises prospects for the US aerospace industry which might now be bleaker than at any time since the immediate post-Vietnam era, were it not for three pow-

erful mitigating factors. They are: the world's insatiable appetite for commercial air-liners; the rapid technological progress, especially in electron-ics, which is creating buge demand for upgrading and retrofitting of existing military aircraft; and - rather dimmer on the horizon – the possibil-ity of a genuine bonanza in commercial and military exploitation of outer space.

These three developments, along with the enormous back-log of orders and research projects still outstanding from the Reagan era, should ensure that aerospace remains one of the more dynamic industries in the US economy, whatever hap-pens in Washington in Novem-ber and over the next year or

Nevertheless, the balance of the industry between military and civilian applications is shifting in a decisive way.

The military contractors are very much on the defensive, and given that military sal accounted for 75 per cent of the aerospace industry's \$125bn of output in 1988, it is not surpris ing that the companies in this sector, along with their shareholders, are not in the best of

THE SOVIET aerospacs

industry is the second largest

in the world, after the US, and

indeed there are some who

claim that it even exceeds the

Some indication of the Soviet

industry's size was given ear-lier this year in the latest issue of the US Government analy-

This suggests that average annual production of Soviet

fighter/attack aircraft, for both

its own forces and those of Warsaw Pact countries,

amounted to close to 1,000 air-

craft a year between 1983 and 1987, compared with about 800

by the US. Output of military

helicopters amounted to about

750 aircraft against just under

The same analysis indicates that in the decade from 1978 to

1987, total Soviet procurement of fighter/attack aircraft amounted to 7,700, against 3,600 for the US; with some 390

long-range bombers, against 81 for the US, and some 4,400 mili-

tary helicopters, against 2,100

These figures indicate a mas-

sis, Soviet Military Power.

US in size.

FOR THE first time in a decade spirits. Aerospace stocks, in fect. have been among the biggest casnalties of the post-crash retrenchment on Wall Street. Their price-carnings ratios stand today 30 per cent below the market average and et about the same level they held before President Reagan arrived at the White House. The talk in the Pentagon, as

well as on Wall Street, is about the inevitability of consolida-tion in the defence industry, were stagnating with several well-known air frame manufacturers and many of the small sub-contrac-tors expected to disappear collapse through mergers in the next few years.

The most immediate threats to the industry need almost no recapitulation - the presiden-tial election; the defence contracting scandal, which has given rise to further tightening of procurement terms; the general fiscal stringency to Washington; and, more specula-tively, the possibility of genuine progress on disarma-ment and detente. From the defence industry's

point of view, there is also a more positive way of looking at the same problems. Over the last eight years the US government has ordered all the weap-ons the country could reasonabiy expect to need in the eeable future.

However, the current data will be very much of a soft landing for the industry, noth-ing like the collapse of tha mid-1970s, when weapons pro-

Each of these programmes was worth \$2bn annually for their contractors. B-1B delivcurement was declining at a rate of 7 per cent a year at the same time as airliner sales eries have now been completed That was the period when and the C-5B comes to an end

aerospace manufacturers --most memorably Lockheed -next year. The biggest current procame to the verge of financial gramme which now remains in question is Grumman's A-16 Navy attack abcraft. The Navy has cancelled a highly-ad-Even within the military aircraft sector there are several redeeming features about the vanced version, the A-16F,

sile Programmes and the MX sales of the US aerospace Intercontinental Missile. todustry and are expected to least three enormous new weapons initiatives - the B-1.

Stealth Bomber, expected to cost \$65bn, the Navy's \$65bn Advanced Tactical Aircraft and Advanced Tactical Fighter. If all three of these pro-grammes survive the political

Beyond this, there are at rise to well over half the total

by 1990. ۰. . Space revenues, which cur-rently amount to \$25bn, are also said to rise by 8 to 10 per cent annually, even if the Star Wars programme is severely curtailed or cancelled, as the Space Shuttle programme resumes, and the demand for

under way, promoted in part years carliar. By next year sales could rise to \$20.5bn and by the enactment of more stringent noise requirements should continue to increase by \$1bn to \$2bn a year until the mid-1990s, according to Mr Paul Nisbet of Prudential Bache.

stringent noise requirements to many countries. The biggest gainer from the strength of civilian aviation is bound to be Boeing, which still produces the only complete range of jet airliners in the world, and looks set to main-tain or increase its 55 to 66 per cent share of the world market. Lees are dictably. McDunnell Mr Nisbet and numerons other analysis believe that this year's \$39bn in worldwide orders for new, aircraft is unlikely to represent the top of Less predictably. McDunnell Douglas is also enjoying a cona cycle. 1.1.12

siderable resurgence, party as a result of the failing dollar The most fundamental rea-The most runnamental rea-son for optimism lies not just to the rapid growth of passen-ger traffic, a factor which could easily be reversed by a recession. Rather, it is expressed in the simple and and partly because of the inter-est aroused by its proposed fuel-efficient MD-91 and MD-92 models. These look like being the only commercial aircraft to exploit the revolutionary new prop-fan technology.

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

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The biggest question hang-ing over the US commercial aviation business is whether

McDonnell Dougles will even-tually join forces with Airbus to strengthen their competitive

position against Boeing. Such a collaboration would

face Boeing with a serious long-term challenge for the first time to 20 years and, in

theory, unleash a new round of

Anatole Kaletsky

In the transport aircraft

fierce price-cutting. Whether or not this happen

US Aerospace company earnings - 1987 1986 funded Backlog Sbn % change on 1987 earnings 1986 earnings % change on ... ,1986 total Backlog \$bn **1967 total** 1987 sales 1986 sales 1987 funded Sm Sm Sm \$m yea Backlog Sbr Backlog Shr yes Boeing McDonnell Douglas Rockwell int Lockheed 15,35 26.4 -6 +4 -1 +1 -28 +13 29.1 28.4 13,146 33.1 12,651 12,296 313 278 20.0 12,123 11,321 9,344 6,053 3,375 635 421 12.0 12.5 5.1 11.6 7.2 9.6 16.8 10,161 8,892 5,608 3,502 Gen Dynamics +5 437 94 36 (53) N.M. 22.8 17.0 22.5 Northrop Grumman +129 4.2 N/A Research: Rivita Nachoma

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stakes to Dornier and AEG)

But it is basically reluctant

Whila Pentagon spending has fallen, the backlog of orders is still rising. Backlogs in 1988 are expected to reach a record \$145bn, 5 per cent up on 1987. In fact this year's decline in sales has been solely due to the exhaustion of two programmes - Rockwell's B-1B Bomber and Lockheed's C-5B. transport aircraft.

rier, which is accounting for

greatest percantage

bomber production in this decada, with more than 70

built so far. The other is the more versa-tile and capable Tupolev Black-

jack supersonic bomber, whose

cause of its cost, and Grumman's efforts to revive the programme with a less ambition A-16G may not succeed in yielding the hoped-for billions of dollars in orders. big aerospace programmes seem fairly secure. This

results, military aircraft orders and production could well be on the rise again from 1991 However, most of the other onwards. In the meantime, rapid

growth remains in prospect for the avionics and military com-puter businesses, which now account for \$61bn of the \$125bn includes the General Dynamics F-16 and McDonnell Douglas

axe, and most observers in-Washington expect them to do commercial space applications The biggest rewards for the so regardless of the election

aerospace, however, are likely to be found in the civilian sector. US civilian aircraft sales this year should come to \$17.5bn, about 60 per cent of which will be generated byexports.

in 1987 and about \$13bn a few

striking statistic that 85 per cent of the jet airliners ever built are still flying today.

"This means that we have not yet seen an airliner replacement cycle over the 33 years of tha jet age," Mr Nisbet SBYS.

This compares with \$16.5bn.

with all three manufacturers' capacity now almost fully booked until 1991, the emphasis of management is likely to shift to raising profit margins rather than undercutting their rivals.

Barring a worldwide economic collapse, that replace-ment cycle now seems to be

a greater threat to them." Western technologies for their own purposes. "While the Sovi-ets; are not exclusively depen-dent on Western technology to field, some major new de upgrade their military systems, they are deriving major bene-fits from applications of Western technology. Although the Soviets have,

in the past, relied more on quantitative production to achieve military superiority, they are now emphasizing the acquiation of advanced tech-nology to produce and deploy high-quality weapon systems and narrow the West's lead." Much of the Soviet improve-

ment in technology acquired from the West has been through entirely legal means, but "the Soviets are gathering significant amounts of information through surreptitious means, the US analysis says, "By illegally acquiring technology, the Soviets are able to forgo the substantial investment costs in basic and applied research and development. They are also able to keep pace with those technologies that

ments in the definition of such

independence.

Michael Donne

UNCERTAINTY continues to tion in the military sphere is cloud the French aerospace particularly vulnerable to the decline in the military aircraft

military terms alone. When to this is added civilian transport ontput, which provides not only for Soviet requirements but also for those of its allies (most of whom either do not have aerospace industries. at best small ones, of their own), it is clear that the Soviet industry is dynamic and versatile, operating across just as wide a spectrum as that of the

sive and vigorous industry in

This is confirmed by Soviet Military Power, which stresses that "the Soviets are making strennous efforts to increase aircraft quality and to concentrate on advanced models. . "While their new aircraft are more costly, more difficult to

develop, and will take longer to produce than the older models their superior quality will enable the Soviet Air Force and Air Defence Forces to meet their requirements more effec-tively, even though in some instances they may replace existing aircraft on less than a one-for-one basis.

defence and tactical operations. It is also probable Some major new Soviet military programmes have that additional plants will

F-18 fighters, the Tactical Mis-

emerged. These include two bomber programmes. One is the Bear H cruise-missile carbegin producing these modern

of

fighters." In helicopters, an industry in which some of the products have achieved unique "firsts" for the Soviet Union, such as in heavy weight-lifting transport aircraft, production has declined only slightly as some older military types have run down

operational deployment is "As with other systems, the mphasis in the 1990s has been Among major new fighter aircraft are the MiG-29 Fulon producing fewer, more technologically advanced, more capable models, and on crum supersonic fighter and the Sukhol supersonic Sn-27 improving and expanding the Flanker, which entered series production in the mid-1980s. roles of the existing line of Soviet helicopters."

In the near-term, says the US In the commercial arena, the analysis, the Soviets "will likely focus on producing Soviet industry tends to lag behind the West in some techfighter aircraft for strategic nologies - in engine development for example - and to follow the West in producing new airliner designs. But it often

makes up in quantity of pro-duction, to meet its massive home market and to supply East European and a few other countries.

In terms of commercial aircraft exports, however, the Soviet industry is no match for the West, and despite attempts to woo the airlines of some of the under-developed countries. most non-Soviet Bloc airlines still opt for the products of the "Big Five" Western jet builders - Airbus, Boeing, McDonnell Douglas, British Aerospace and

Fokker. A significant development in recent months has been the way in which airlines in Eastern Europe have been turning increasingly to Western jet airliner designs, with some significant sales successes already achieved by Airbus in East

In the sphere of advanced technology, the US analysis stresses that the Soviet military industry is undergoing a revolution. Soviet researchers are sup ported by large aerodynamic test facilities that are well

equipped and very sophisti-cated. Large investments in serodynamic research, combined with one of the world's largest wind tunnels, have enabled the Soviets to develop aerospace systems that are increasingly competitive with Western counterparts.

"As a result, new Soviet military aircraft are significantly more capable and incorporate much more sophisticated electronic sub-systems and armaments than their predecessors.

Historically, the Soviets have might alter the character of looked to adapt or exploit

service by the years 2010-2015. Pressures on France's aerospace industry have intensified. - But while the necessary craft up to Mach 5.

conflict and thereby represent.

have emerged or are on their way. Ilyushin, primarily a transport aircraft builder but also responsible for anti-submarine warfare and long range. maritime reconnaissance airmaintime recommissions and craft, is currently developing tha IL-96-300, a four-engined 300-passenger airliner designed for ranges of up to about 4,600 miles, which makes it broadly comparable to the twin-engined European Airbus A-830. Ilyushin is also now design-

ing a new small twin turbo-prop transport, the IL-114, for up to 60 passengers for short-range routes.

Topolev, also a major transport aircraft builder, whose most famous past designs have included the Tu-144 "Concordski" supersonic airliner, is now developing the Tu-204, a medi-um-range transport to replace the now ageing Tu-154, with capacity, for up to about 214 passengers. The first flight has. been scheduled for this year.



for the US

500 for the US.

Although the recent successes of the European Airhus consortium in winning major new orders, especially in North America, for its jet airliners has given s major boost to the civil side of the husiness, the military sector continues to suffer from the slump in military aircraft export sales.

The difficulties of the world aerospace business bave prompted both the French authorities and the country's main eerospace manufacturers to intensify their calls for greater European and transatlantic cooperation.

The collapse of France's tra-ditional military export mar-kets of the Middle East, the financial problems of developing countries and the decline in the value of the US dollar last year have had a particularly beavy impact on the Avions Marcei Dassault-Breguet group, France's famous lighter aircraft company. Dassault, whose concentra-

export market, has been forced during the past 18 months to lay off workers and close plants for the first time in its distinguished history.

Dasssult is now trying to find partners to collaborate in its programme to develop the Rafale, France's new-genera-tion fighter aircraft dna to come into service in the mid-1990s

The French government this year finally gave the Rafale programme the official go-ahead by ordering the first two prototypes of the new airgrammer craft

But the Government would now like to extend collaboration on the Rafals to other European countries and has also suggested possible collaboration with the US. But efforts to find partners for the Rafale have been

extremely arduous, especially since the French aircraft is competing against the rival European Fighter Aircraft, the

## In search of collaborators

collaborative project between the UK, West Germany and fied aerospace activities, even though it too has suffered from the decline of the US currency indeed, the European aero-space industry has blamed Dassault's traditional do-itand the stagnant military market.

Bnt while its defence operations - mainly helicop-ters and missiles - have not escaped the general slump in alone policies for the failure of reaching a broad agreement between major European countries to develop a single new fighter aircraft instead of military exports, prospects for the civil aviation and space launching two competing prosectors have become increas-

ingly encouraging. The success of the European Ariane space rocket, new satel-But in recent months, under the new leadership of Mr Serge Dassault, the son of Mr Marcel Dassault, the late founder of lite programmes and future space collaboration projects has now opened a significant new industrial phase for the company, the group has adopted a far more pragmatic approach to collaboration than France's space industry. As for the civil aircraft side,

Aerospatiale, the French state-controlled aerospace group, has succeeded in riding the tide thanks to its diversithe marketing successes of the new Airbus A-320 and launch of the A-330-A-340 programme have raised spirits at Aerospa-

tiale's civil aircraft division. Airbus recently indicated that between now and the year 2006 it expects to deliver more than 3,000 airliners out of a total civil aircraft market for about 9,200. This would represent an overall market share of

well over 30 per cent, worth abont \$179bn, tha European consortium says. But Mr Henri Martre, Aaros-patiale's chairman, has continued to argue for greater collab-oration in the civil sector as well as to the military aircraft. business. Mr Martre also favours collaboration between Airbus and McDonnell Douglas

of the US. This collaboration is crucial, he says, if Airbus and McDonnell want to fight Boeing's ambitions to monopolise the civil aircraft market.

Acrospatiale is now also auxious to develop collaboration on new-generation supersonic

on new-generation supersonic and hypersonic passenger air-craft. The French group believes there will be strong demand for such aircraft. Aerospatiale has already launched studies on a super-sonic new aircraft called ATSF (Ayion de Transport Supersonic (Avion de Transport Supersoni-que Futur) and on a hyper-sonic aircraft called AGV. (Avion a Grande Vitesse). The ATSF would fly like

is working on a combined tur-bofan-ramjet propulsion sys-tem having already developed Concorde at Mach 2 but would have a far bigger range of about 5,000 miles and transport double the number of passen-

a ramjet system for its tactical missiles. The proposed engine system for the AGV would involve the use of turbofan for take off and The French group is also Aready planning beyond the ATSF with the hypersonic-AGV, which Aerospatiale offi-cials claim could be ready for flight up to about Mach 3. At this speed, the ramjet would

echnologies for the new superstiale officials sonic airline are known and sise that the French hypertested, the hypersonic aircraft would call on the development of new in engine and materials sonic aircraft would take off from conventional runways and use the same terminals as technologies since the AGV ordinary aircraft, meeting all would have to withstand skin temperatures much higher than Concorde - of the order airport noise and environmen-tal controls.

Passengers travelling in the atthe forentiate of the order of 600 deg. C. Although the French hyper-sonic project is still only at a preliminary phase. Aerospa-tiale says a number of key eleprojected hypersonic aircraft will find the same environment as on existing jet airliners since the AGV will be designed to fly inside the earth's atmosphere and not in space.

an aircraff are already emerg-ing. Thus the AGV would be a 300 tonne aircraft: canable of Therefore they will not face the effects of weightlessness nor excessively high gravity carrying 150 passengers at Mach 5 over 7,500 mile routes. For the engine, Aerospatiale forces as they travel from Paris to Tokyo in barely three hours. But as with other ambitious and increasingly costly new acrospace programmes, Acrospatiale is now actively promo-ting broad European and American cooperation to develop this new type of air-craft.

Paul Betts

WEST GERMANY'S aerospace industry has weatbered a bumpy ride during the past year, overshadowed by many months of complex wrangling over restructuring the sector under the leadership of Daimler-Benz, the motor and engineering conglomerate.

However, a string of announcements by European governments backing collabo-rative ventures for the 1990s in military and civil aerospace has considerably improved the prospects.

The collaborative projects on which Messerschmitt-Boelkow-Biohm (MBB) the leading West German aerospace and arma-ments group now depends for most of its business are generally thought more reliable than purely national projects for the simple reason that they are more difficult to cancel.

On the other hand, international cooperation brings with it the difficulties of harmonising different governments' decisionmaking - a problem

seen above all in the plans to restructore the management operations of Airbus Industrie. Additionally, the iong run-ning negotiations over plans for Daimler-Benz to take a 30 per cent stake in MBB have been testing nerves and patience in the industry. Mr Hanns Arnt Vogels, the MBB chairman, who admits

balance sheet. But Bonn is being asked by Daimler-Benz to take on addi-

that the long period of uncer-tainty over the company's future management and share-bolding structure is affecting MBB stake. staff morale, has called for the Bonn Government to take a speedy decision to allow the accord by the end of the year. The problem, bowever, is that the Daimler deal is linked directly to parallel negotiations on MBB's 37.9 per cent stake in

the Airbus project through its subsidiary Deutsche Airbus. The Bonn government agreed last June to put up an addi-tional DM 4.9bn to fund devel-opment of the new A-330 and A-340 airliners as well as to clean up the Deutsche Airbus

## A saga of wrangling

WEST GERMANY

bus, in view of the financing risks associated with new airtional financing obligations as a condition for its agreement craft development and the effects of the weak dollar on future sales income. to step in with a 30 per cent

The European decisions over the collaborative ventures have also been heavily affected The political and industrial horsetrading also involves the governments of Bavaria, Hamby delays - but they are all virtually off the ground. The green light has been given for the Airbus A-330 and A-340, the burg and Bremen which currently own a 52 per cent stake in MBB. in MBB. Daimler is highly interested by the MBB weapons and space side, which it regards as highly complementary to its present activities (including 100 per cent ownership of the aero engine maker Motoren- und Turbinen Union, and majority stakes in During and AEG) Franco-German PAH-2 anti-tank helicopter, the four-nation Eurofighter and the Columbus, Ariane-5 and Hermes space projects. These add np to sizeable

additional orders for MBB and other leading companies. MBB, whose turnover has been stag-nating for several years, boosted sales last year to DM 6.1bn from DM 5.7bn in 1996. It expects turnover of DM 7.1bn to DM 7.2bn this year, with orders in hand moving up towards DM 12bn from DM 10.6bn at end 1987.

The industry was given another fillip in July with announcement of Britain'a 510bn armaments deal with Sandi Arabia. Involving the delivery of another 48 Anglo-German-Italian Tornado fight-German-italian Tornado Igni-er-bombers, the accord will give MBB additional turnover of DM 500m over the next few years and will be sufficient to keep production lines open until 19

But up till now it has played a less dominant role in the US Domier, the smaller rival of aerospace industry, although

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Daimler wanted to push through the capital increase to through the capital increase to dilute the family's share and increase its 65.5 per cent equity stake. The row has left a good deal of bad blood, and threat-ened the future of at least some of Dornier's 4,000 aircraft division jobs.

nomics Minister, but It is likely A wave of criticism of the that any recommendations it proposed Daimler-MBB take-over has also been signalled makes will be taken seriously by the Government. Significantly, the proposed Daimler-MBB link up has been greeted by British Aerospace from the Opposition Social Democratic Party. This is on the grounds that the proposed conglomstate would distort competition and could have an unhealthy hold over the state. The deal would create a and Aerospatiale, the com-

pany's two partners in Buro-pean ventures, on the grounds that it would strengthen MBB's capacity to collaborate, by improving its shaky financial structure.

There is litle doubt that an acrospace industry under the general control of Daimler would be better managed and financed than it is at present. But a great deal more atmo-spheric turbulence has to be expected before this particular flight reaches its destriction

**David Marsh** 

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Spending rate still rising

would be too expensive for even a major US company to undertake alone.

Military budget pressures in the US have had a big part to play in generating this change in attitude.

Current ideas for a possible Airbus link with either Lock-heed or McDonnell Douglas, in a bid to counter the current dominance of Beeing to world jet markets, is a classic exam-ple of the type of closer collaboration now emerging,

One idea is for a new by airframe manufacturers on major new ventures which long-range aircraft to compete

directly with the Boeing 747, by combining the MD-11 fuse-lage with the Airbus A-330/340 wing. Another is for a stretched version of the A-320, to seat between 180 and 200

passengers, which would rival the Boeing 757. If such collaboration is achieved, it could provide a procedent for further joint ventures later, such as the proj-ected second generation super-sonic atriiner, which could well

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bring together the entire industries of such countres as the US, Western Europe and · . • · · ·\_

7401 141 (H2) Cont France

F4-F Phantoms of the West German sintorce: these aircraft are equipped with AMRAAM advanced medium range air-to-air missiles.

#### MBB which came under the wing of Daimler in 1985, has Daimler board and the Dornier to become involved in the Airfamily to reach agreement on a proposed DM 300m capital had a less successful time. The company's minority family shareholders have heen

embroiled in a row with Mr Edzard Renter, the Daimler chairman, over the motor com-pany's efforts to take ovar greater financial and manage-ment control. Dornier in June had to announce the halt of develop-

ment work on the 30-seat Do 328 commuter aircraft which had been planned to go into service to the 1990s at a total

The deal would create a huge arms and aerospace con-glomerate receiving 35 to 40 per cent of the Defence Minis-try's defence procurement spending, as well as further amounts from the Economics Ministry for the Airhn's pro-gramme and a large alice of funds from the Technology Ministry for space research. The Federal Cartel Office in Barlin, which will have to vet any takeover, has aheady indi-cated that it will examine the case very carefully. The office tives have threatened a lawsuit if Daimler goes ahead with the planned 30 per cent stake in MBB, on the grounds that this case very carefully. The office can be overruled by the Ecocould further curtail Daimler's

there have been some major ventures, notably in collabora-tion on engines, with General Electric and Suerna of France

jointly building the CFM-56 engine and Rolls-Royce, and Pratt & Whitney collaborating with others on the V-2500 for the European A-320 Airbus.

But what is now being dis-

cussed more readily is much closer collaboration, with

direct joint involvement in design and development as well as financial risk-sharing

Dornier family representa

development cost of DM 700m. This followed the failure of the

continued from page 1

aerospace industry, as development and production costs have risen, and UK, Western

European, Brazilian, Japanese and other industries have been

extensively exploiting it for many years. The best examples are the

European international teams in Panavia and Turbo-Union

for the Tornado fighter and in Eurofighter and Eurojet Turbo for the new EFA, as well as Airbus Industrie in the com-

mercial airliner sector.

# (AEROSPACE 13)

THE UK aerospace industry continues to expend, and turn-over during 1988 is expected significantly to exceed £10hn. as exports.

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Figures compiled by the Society of British Aerospace Companies, based on Contonns and Enrise returns, show that the industry samed a balance of payments surplus last year of \$2.4bn, with exports amounting to a record £5.6bn, 12 per cent more than in 1986.

over terms, ranks second in the Western World to that of the US, but while the US exports only 20 per cent of its aerospace output, the UK exports 60 per cent. Commenting on these statis-

tics, the SBAC says that the industry is becoming increas-ingly competitive. Although the labour force has declined from 230,000 to 200,000 in recent years, "his has been accounted by a continent accompanied by a significant increase in turnover in real terms which means a really substantial increase in productivity."

The SBAC adds that produc-tivity in the aerospace industry has doubled over the last ten years, as companies have trimmed labour forces and invested heavily in new manufacturing techniques so as to remain at least up with, if not

over the remaining years or ing has been signed, and the

BAe 125 executive jet, used here as an air ambulance:

- 25 St. - 1 this century, the UK industry is expected to benefit substana fildba, with exports amount. tially from the far-reaching across the spectrum of a record \$5.6ba, 12 per Memorandum of Understand. aged in the memorand ent more than in 1966. Ing signed earlier this summer, yet to be negotiated. The UK industry, in turn, with Sandi Arabia. But many companie

The memorandum provides for the supply of substantial quantifies of military sircraft and associated infrastructure equipment, including new air bases, which, together with other items such as warships, could amount to more than flohn of business in the next

few years. The deal stems from the Saudi desire to build up its own armed forces as a result of recent military tensions in the Middle East and especially in the Gulf area. The UK, and especially Brit-

ine UK, and especially sin-ish Aerospace, has a long his-tory of supplying military air-craft and associated infrastructures to Saudi Arabia, and it is clear that the latter's satisfaction with past performance has been a major factor in the new arrange-

ahead of, the competition, pri-marily from the US, Over the remaining years of ing has been signed, and the

detailed individual contracts for the Saudi requirements

across the spectrum of envis-aged in the memorandum have But many companies in the UK aerospace industry will benefit, especially British Aero-

space which is the lead contractor under the memoran-dum, through which other contracts will be channelled. Although no details have yet been revealed - indeed, detailed contracts have yet to be negotiated .- in the long

term BAe is expected to win new orders for at least another 48 Panavia Tornado fighters, about 40 Hawk 200 light com-bat aircraft and trainers, together with some military variants of the Type 146 fourengined transport and the

Type 125 light business and liaison jet. Substantial business is also Substantial business is also likely to be gained gained by Westland on helicopters (over 80 are envisaged, including possibly some EH-101 multi-role helicopters, Lynx multi-role aircraft and WS-70 Black

Hawk helicopters). Rolls-Royce, together with

Turbomeca, will benefit from additional Adour engines in the Hawk-200, and with its partners in Turbo-Union from the RB-199 engines for the Tornado. Rolls-Royce and Turbo-meca could also benefit from the provision of the RTM-822 engine for the WS-70 helicon-

Many of these contracts may take months to settle in dstall, but overall the prevailing view is that the UK has now taken over from the US as the major military supplier to Saudi

Arabia. Meanwhile, some major restructuring of the UK indus-try has been under way, and some more may yet occur. Both Rolls-Royce and British Aerospace are now privatised, and considerable internal reorganisation has been under way in both companies, to streamline management, reduce costs and increase their competitive power in world markets.

Within British Aerospace, which has now acquired the Rover motor vehicle manufac-turing group, the structure of the business is being reorganised to give more power to the

divisions - Military Aircraft, Dynamics, Civil Aircraft and Space & Communications, together with BAe Enterprises - to enable them to operate virtually as separate profitearning busin

This devolution is expected to be complete by January next year and is designed to enable the divisions to respond more swiftly to market developments.

A further major development has been the UK Government's decision to privatise Short

decision to privatise Short Brothers, the acrospace mann-facturer based in Belfast. This will be done by inviting offers from potential buyers for the company as a whole. It is now recognised that to try to break up Shorts and sell off its constituent parts, such as aircraft building, missiles and "aerostructures" (making parts for other manufacturers' aircraft), would be a disastrous policy which could destroy the company since the divisions company since the divisions

are so closely linked. No timetable for privatisa-tion has been set, but it seems likely to be in late 1989 or early 1990.

Short Brothers has been Government-owned since 1943 and, as outlined elsewhere in this survey, has been seeking international partnerships for possible new ventures in the regional aircraft market, including the FJX regional jet

airliner. One significant feature of the UK industry's recent overall export performance has been the big contribution by the equipment companies, of which there are more than 300 in the UK, making the British aerospace equipment industry the largest and most capable in the Western world outside the US.

The equipment industry includes many big companies that are major international operators in their own right, operators in their own right, often with a range of other products outside the aerospace industry, such as Dowty, Dun-lop, Fairey Group, Ferranti, Fight Refuelling, GEC group (including Marconi), Lucas Industries, Plessey, Smiths Industries and Thorn-EMI.

The export turnover of the UK equipment industry in 1986 (the latest year for which full

**Exports boost continued expansion** figures are available) amounted to £2.8bn, which was equal to that of the equipment industries of France (£1.5hn)

and West Germany (£800m) combined. A substantial proportion of all UK aerospace research and development outlays are spent in the equipment industry, and there is no item from aircraft on-board systems to ground-support equipment that cannot now be obtained from a UK maker.

The world aerospace equipment market is massive. At least 25 to 30 per cent of the cost of any aircraft is directly attributable to the equipment and systems (other than engines), that it carries. These range from avionics systems such as navigation

equipment, flight intruments and on-board computere, through to tyres, wheels, brakes, hydraulics, control systems, air conditioning equipment, seating, galleys, toilets and interior decor in commercial aircraft, but excluding weapons systems (such as missiles) in military aircraft. On that basis alone, out of

the anticipated spending of over \$1,800bn (over £1,000bn) on new aircraft, engines, missiles and spacecraft and other aviation related activities between now and the end of this century, anything up to \$600bn is likely to be spent in the equipment industries worldwide.

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But the competition is fierce and is intensifying, and the development costs of new items of aircraft equipment can be high. This has led increas-ingly to "teaming" between equipment manufacturers on an international basis, just as it has with airframe and engine manufacturers, to bid for major contracts on the new generations of civil and mili-tary aircraft now under development, especially the Eurofighter and the new Airbus

A-330 and A-340. But it is also significant that many of the UK companies have over recent years become more international in their outlook, and many have been successful in winning contracts in that most competitive of markets, the US itself, often independently, hut also sometimes involving direct links with major US companies.

At the same time, many of the UK companies have directly extended their links with the US by buying companies there, a trend which seems likely to increase in the future.

with Embraer of Brazil.

Eutelstat.

Concern to be in the fore-

front of new technologies has

also taken the company into

space projects through the

European Space Agency. At the same time, Aeritalia is

working on important contri-

tions satellites, Olympus and

and 16,000 employees in 13 establishments around Italy,

the company is organised

around seven operating units: combat aircraft, transport air-

craft, avionics and equipment,

space, general aviation assis-

tance, guidance systems and

Its reach has been further strengthened by taking a 31

per cent stake in Rinaldo Piag-

glo which is in the final stages of developing a small jet for

With headquarters in Naples

hutions to the telecommunica-

Michael Donne

· . . . . **Building strengths in collaboration** 

ITALY

IN A COUNTRY which looks to industrial collaboration as both a vehicle for growth and the acquisition of new technology, no company has been more active in building international links than Aeritalia, Italy's main aerospace company which is part of the Iri state

holding group. With manufacturing and development partners ranging from Brazil to Spain, from the . US to France, the company has steadily developed from a medium technology assembler of aircraft to an increasingly specialised designer and operator in advanced materials.

Unusually for a European company, Aeritalia has ties with both of the US major airframe manufacturers, Boeing and McDonnell Douglas. With the former, it is now

producing parts for the Boeing 767, airframe, including wing flaps; vertical tail panels and the radome. But it regards as

its piece de resistance the 11-metre rudder for the 767 which it claims is the largest single part manufactured in carbon fibre.

But the longer relationship is with McDonnell Douglas. This began in 1965 and has

While retaining the basic structure of the DC-10, the MD-11 will incorporate the most advanced technologies and materials, together with new generation engines and avionics.

Aeritalia's agreement with the American company gives it full responsibility, and a share of the financial risk in the development and production of fuselage panels, winglets and vertical tail fin. In addition, Italy is providing key parts for the cargo section of the comhined passenger/cargo version. The work alongside McDon-nell Douglas by no means finishes here. The two companies

are now closely involved in the Technology Readiness Pro-gramme which aims to exploit the full benefits of the new prop-fan engine technology. In a revenue-sharing agreement, they are working to adapt the MD-80 to prop-fan propulsion in the form of the so-called MD-91 - because 1991

is the year in which it is hoped to introduce it into scheduled service, depending on the airlines' willingness to buy.

The agreement gives Aeri-talia the right to participate in

all phases of the research and planning of the new aircraft. The General Electric engines of the flight demonstration ver-sion of the MD-91 have been installed using the pylons man-ufactured at Aeritalia's Pomigliano d'Arco plant near Naples. Such work is becoming an increasingly important factor in the group's steadily strengthening financial for-tunes, which have moved from a slender L4bn profit on sales of L880bn in 1983 to a profit of L51bn (about £1.7m and up 40 per cent on the year before) on sales of L1,793bn last year.

Many of its commercial hopes are now firmly pinned on the ATE-42/72 joint programme with France's Aerospatiale whose fortunes do not seem to have been adversely affected by the tragic crash of an ATR-42 in the Italian Alps last November.

This version has now attracted firm orders for 140 units since its launch in 1986, together with 72 options. At present, 93 ATR-42 aircraft are being flown by 36 different airlines and interest is now begin-ning to stir in the stretched 72-seater version which has so far attracted 17 firm orders and 33 options.

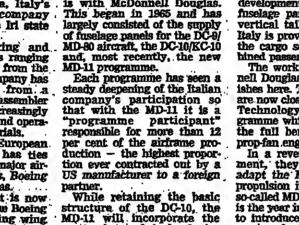
Development of Aeritalia's civil aviation programmes sits alongside a maturing involve-ment in military work - again on a solidly international basis.

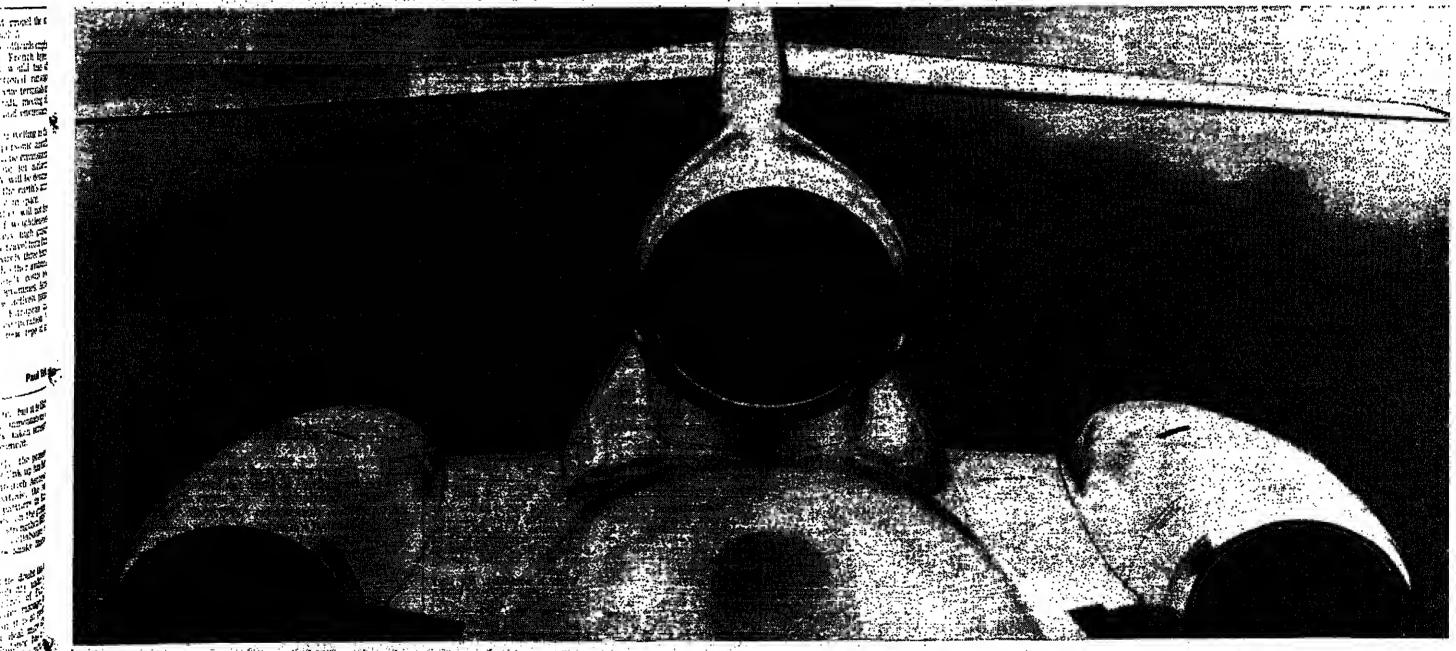
Following the Tornado programme, in which Aeritalia's share is 12.4 per cent through the development and manufacture of the aircraft's variable geometry wings, the Italian company is now working on the European Fighter Aircraft project. Here its share of work amounts to 21 per cent. Other collaborative projects also include the AMX fighter

John Wyles

husiness use.

missiles and engines.





## The three-engine Falcon 50 and 900. Executive jets as safe as airliners.

Of course you could stick with comparing operating ranges, cruising speeds, usable cabin space and the soundproofing of other private jets. Which, just between us, would only again highlight the advantages which are the strength and reputation of the Falcon the world over. But the comparison slops there for one very

simple reason. The Falcon 50 et 900 have three engines.

Use of a third engine positions both of these aircraft at the very strictest level of safety that imposed on airliners making overwater flights via the shortest routes. This provides the aircraft with additional power always at the ready for the systems which ensure your comfort and safety.

To understand the essential role, vital in the power factor, especially when flying over inhospitable

zones, just

keep in mind the importance of the on-board electronics of a long-range aircraft.

Objectively speaking, the security offered by the three engine Falcon is comparable to that of commercial airliners, not of other corporate jets in their class. This is of course why executives prefer

the Falcon 50 and 900.

#### Dassault International

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## **Business takes off with Falcon**

#### **AEROSPACE 14**

#### THE NETHERLANDS

## **Fokker's fortunes recover**

FOKKER, the Dutch since maker, is pulling out of one of the worst tallspins in its turbu-lent history but still faces heavy headwinds

Last autumn Fokker was res cued financially by the Dutch government as runaway production costs for its two new aircraft left the company strog gling. Fresh orders for the Fok-ker 50 and Fokker 100 were drying up amid threatening uncertainty over financial viability and managerial direc-

But since then Fokker's fortunes have soared. New orders are piling into the company's Schiphol headquarters - three times as many in the first half of this year as all of 1987. The order book is full until 1990 and the production tempo is

being stepped up. Stockholders snapped up a share issue so eagerly last spring that the Dutch government was left with only 16 per cent of the company instead of the expected 49 per cent. But despite the impressive

recovery Fokker almost certainly will not survive alone. lopment costs of new aircraft are so beavy that a smallsh aerospace company such as Fokker cannot carry them. Further, the Hague ordared Fokker to find a business partner by 1990 as part of the strings on its rescue package. Mr Reinder van Duinen, one

of the three members of the board, says Fokker is talking to any number of European aerospace companies, includ-ing Messerschmidt-Bolkow-Blohm (MBB). The West German aerospace company already makes fuselages for the Fokker 100 and the co-operation was deepened last year when MBB and Fokker signed a collaborative pact on further joint efforts, including a possible merger.

Fokker specialises in commuter aircraft such as the 50-seat Fokker 50 turboprop and 100-seat Fokker 100 twin-jet. Since its founding in the early part of this century, the com-pany has glided along as an independent, but last May the Dutch government took a 16 per cent stake as part of its rescue package

That stake will be raised in a second rights issue this autumn although it will be no higher than 49 per cent. An issue price of Fl 20 per share was stipulated in the rescue package but that is currently being negotiated.

Under the rescue package Fokker received Fl 212m in fresh aid from the Government plus relaxation of repayments on some development credits. So far, the state has provided a



The Fokker F-50 turbo-prop airliner which is now winning widespread acceptance among airline world-wide

least Fl 433m.

the balance sheet.

F-100 in that country.

mercial banks another Fl 400m in new credit lines. Fokker suffered a loss of Fl

107m on sales of FI 1.06bn in 1987. Development costs of the short-haul F-50 and mediumhaul F-100 have surged to nearly double the original esti-mate - Fl 1.6bn instead of the original Fl 1bn.

But the company expects to at least break even this year when cashflow improves as a result of the fresh loans. A sweeping cost-cntting pro-gramme is also being launched but probably will not yield results for a couple of years. Nevertheless, serious prob-

lems remain. Fokker is barely able to deliver aircraft on time, the most recent example being in July when it said 10 F-100s for KLM Royal Dutch Airlines would again be delayed.

Launching two new aircraft at the same time has proved profoundly more difficult than expected. Aircraft parts have not been ready on time, production managers have been ill-informed and employees have been restive about emergency overtime work.

Mr van Duinen savs assembly lines are now rolling more smoothly and the production tempo of both aircraft is being stepped up. About three F-100s per month are supposed to roll off the line by the middle of next year compared with one a month now.

The only chief executive who higher debts that have spring has remained to provide from the rescue package, at much-needed continuity is Mr Frans Swarttouw, Fokker's

A debt-to-equity ratio is diffi-cult to calculate, explains mr swashhuckling chairman. He determinedly refused to resign late last year when aeveral van Duinen, because the gov-ernment development credits bers of Parliament vocifer can be viewed as either debt or ously urged him to do so in light of the company's trouequity. But he does concede that the debt burden is more punishing now that govern-ment credits have been put on

For the future. Fokker will soon have to start considering a successor to the F-50 and F-100, a decision which will be the major impetus behind a The low dollar has not made life easier for Fokker although currency problems are milder joint venture of whatever kind. than in the past. Because air Various combinations of small craft are always priced in dol-lars and Fokker's costs are in aerospace groups bave been mentioned, including Fokker, guilders, the Dutch company's MBB, Saab-Scania, Construc-ciones Aeronauticus and Short competitiveness has suffered, especially against the Ameri-can giants Boeing and McDon-nell Douglas. Brothers.

Some movement could come in September when Daimlernz is supposed to decide Dollar costs are hedged for whether to take over part of MBB. That could pave the way this year and next and Fokker also is trying to move production to low-cost countries. Just for a deal between Daimler and its aerospace subsidiary, Dor-nier, MBB and Fokker. recently, an agreement was reached with IPTN of Indon-

esia to make some parts for the Fokker has been down this road before with an ill-fated merger with VFW, a forerun-Within Fokker, management ner of MBB, in 1969 and a joint is struggling to repair its ranks nture with McDonnell-Dougafter a rash of resignations las in 1982. In those cases both over the past year. Two of the three members of the managepartners optimistically boped to exploit the burgeoning marment board, including Mr van ket for commuter aircraft that was being unleashed by "open Duinen, are new, as are a flock of middle-level managers.

skies" policies. A psychological blow was But now sheer survival is at dealt by the sudden resigna-tion of Mr Harry Langman, stake and greater willpower is to the determining fac-

### SWEDEN Lean period in the offing

THE SWEDISH aerospace industry, centred around Saab-Scania, faces a lean period. The large investment needed to davelop and produce the JAS-39 Gripen multi-role combat aircraft and the Saab 340 commuter airliner means that the company's aircraft division probably will not recover sus-tained profitability until the early 1990s. The division reported a loss

of Skr 33m in 1966 and Skr 43m in 1987 despite a 36 per cent rise in revenues, due largely to sales of the Saab 340, from Skr 3.27bn to Skr 4.4m. The last two years of losses underscore the risks Saab-

Scania has taken in the aero-space sector during the 1990s. It committed itself to develop-ing what is claimed to be the world's first truly multi-rola combat aircraft, able to inter-cept, attack and carry out reconnaissance missions without special variants, under a strict fixed-cost contract.

Simultaneously, it decided to embark on its first major foray into the competitive civilian aircraft market with the Saab

While the gamble on this air-craft appears to be paying off, there are growing doubts that the JAS-39 programme, Swe-den's largest military project, will generate major profits for the four-company consortium, headed by Saab-Scania, that is building the aircraft. A report released in July by the Swedish defence procure-ment agency FMV disclosed that development of the JAS-39 had fallen a year and a half

behind schedule, creating "a risk for unplanned cost increases." Analysts believe the delay could add another. Skr 1bn to the projact's approved budget of Skr 40.8bn. The JAS-39 consortium, which includes the Saab Air-craft Division, Volvo Flygmo-Ericsson Radio Systems tor. and FFV Aerotech, would have to bear any extra costs under the programme's fix-cost con-

trac FMV said the delays centred on the development of the air-craft's RM-12 engine, a modifi-cation by Volvo Flygmotor of General Electric's F-404 engine, and its advanced fly-by-wire flight control engine flight control system.

As a result, the first test flight of the JAS-39, originally scheduled for the antamn of 1987, has been postponed until late 1988. FMV has warned that a delay in the aircraft's initial delivery date, set for 1992, "cannot be ruled out.". although Saab remains pub-licly confident that the dead-line will be met.

However, the possibility that the Swedish Air Force deal may bring in only slim profits has increased pressure on the JAS-39 consortium to find mort orders.

Although Sweden has not successfully sold any combat aircraft abroad since the Draken of the 1960s, Saab's president, Georg Karnsund, argues that the JAS-39 has a sile for the JAS-39. better chance to find foreign customers than its costly pre-decessor, the Viggen. It is ligh-ter, more versatile and easily maintained by conscript per-sonnel, making the JAS-39 lowed by a Swedish-built missile with greater range." ideal for smaller countries

Saab concedes though that is balking at the programme's estimated Skr 6bn price tag. It may decide to order the updated Skyflash 90 directly from British Aerospace, leav-ing Saab without a major misprospects for foreign sales are likely to diminish if the Swedish Air Force decides not to order a two-seat trainer ver-sion, the JAS-39B. Potential buyers, which include Austria, Switzerland, Norway, Denmark The future appears brighter for Saab's civilian aircraft pro-gramme. Since the Saab 340 and Finland, have indicated that they would drop consider-ation of the aircraft if the trainer is not provided

FMV has stated that "there the company has succeeded in its goal of capturing a third of is no room in the current JAS framework" to support devel-opment of the trainer aircraft. the world market for 30 to 40seat twin turbo prop commuter aircraft, with 140 delivered or on order to 27 airlines. Saab'a The estimated development cost of the JAS-39B is said to have climbed from Skr 800m to Skr 1.8bn. A final decision on main competitors are the de Havilland Dash 8 and Embraer's Brasilia 120. the JAS-39B is expected in late 1908, with the Swedish Air. Force considered likely to opt market leader in its category in Western Europe with a 70 per cent share and the comfor training JAS pilots on simators ins

Sabb says it will not develop a trainer on its own, explaining that this would be too expenpany claims a third of the rapidly-growing US market. A small footbold in Asia has also Saab must also worry that a

been established through a deal with a Taiwanese airline. slip in the production schedule In an effort to increase sales, will harm export orders. It has:

Saab has begun production of a new version of the 340 with a exceeded the Swiss deadline. Sab is also finding that the country's restricted defence budget may threaten its future development of missiles. Havmore powerful General Electric CTD-9 engine that boosts the aircraft's speed from 500 to 650 ing completed work on an au-launched version of its RBS-15 pleted work on an airkilometres an hour. The com pany is also considering developing a stretched version that would seat 50. anti-ship missile, Saab's mis-sile division recently proposed developing a first-generation "fire and forget" air-to-air mis-

FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

Though its order book is nearly full, Saab will have to wait several years before it The project would involve cooperating with British Aero-space on an improved version reaches the break-even point on the commuter aircraft which was originally a joint programme between Saab and Fairchild of the US. of the latter's Skyflash fol-

The US manufacturer pulled out in 1985 for economic rea-sons, forcing Saab to invest another Skr 600m for the construction of a new wing factory and other production facilities. This raised the break-even point for Saab from 200 succraft to 250-300 and caused delivery delays.

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Saab and its Swedish aero space partners, principally Volvo Flygmotor, have long relied on military orders for their survival, but civilian aerospace business is expected to be increasingly important to their future.

For example, civil aircraft orders will bridge the gap between the phase-out of Vig-gen production in 1990 and the start-up of the JAS-39 in 1992.

Aware of their over-depennce on military funding, Saab and Volvo have been seeking participation in international airliner programmes during the 1980s and the civil aircraft route may prove eventually to be the salvation of Sweden's. aerospace industry.

John Burton



ing: eivil aircraft may the Saab 340 t er eirline. Linkos prove to be the salvation of Sweden's zerospece industry

But the Swedish government

ile development project.

went into production in 1984,

The Saab 340 has become the

total of more than F1 900m in is soon enough. Sufficient cash development credits and com- flow is needed to service the

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board and a captain of Dutch industry, earlier this year.

tor. Laura Raun

placed an order for 30 aircraft, tract with Switzerland for the with an option on another 110. JAS 39 since its initial export

BELGIUM

## **Fighter choice close**

THE BELGIAN aerospace industry is, by turns, anxious about its two streams of work civil and military.

Having within the past year maintained, though not much increased, its tochold in the Airbus programme, the indus-try'a attention has now swiv-elled to forthcoming govern-ment procurement decisions on a new jet fighter and a military

But the industry's perennial neurosis – nnderstandable given its traditional status as subcontractor to foreign com-panies in bigger countries – is somewhat assuaged by a feel-ing that the Belgian govern-ment is at last beginning to give real support.

Mr George Gevers, managing director of Fabrique Nationale (FN) Moteurs, as well as cur-rent president of the Gebecoma trade association of Belgian aeronautical companies, detects a new industrial policy on the part of the Government, and puts it down to the better regional balance that now exists in his industry. Because of the historic roots

of Belgian aerospace in French-speaking Wallonia, it has been hard for politicians representing the country's Flemish majority to consider the industry as worthy of

But Flanders is now getting its fair share of work. In mak-ing wing parts for the Airbus A-330 and A-340, for instance, A-330 and A-340, for instance, Asco of Zaventem (Brussels Airport) and Watteeuw of Bruges are dividing production work evenly with Sonoca of Gosselies (the semi-public com-pany formed a decade ago to take over from the bankrupt Fairey operation in Wallonia). The increases in the impor-The increase in the impor-tance of avionics, relative to engines and airframes (Wal-loon specialities), has also helped Flanders-based electronics companies win more con-

Mr Gevers says the Govern-ment has thus made relatively ment has thus made relatively littla fuss this year in deciding in principle to pre-finance the non-recurring (ie research) costs of the latest Airbus A-330 and A-340 models, even though the overwhelming proportion of aerospace R&D is still car-ried out in Wallonia.

But how far the Belgian gov-ernment is prepared to take local industry's interests into account in choosing a new fighter for the late 1990s is another question. The choice is between buy-

ing an update of the General Dynamics' F-16, which the Belgian Air Force already files, or the new, yet-to-be-developed French Rafale. Belgium is, in fact, the last

loose jigsaw plece in the emerging pattern of European procurement of the next gener-ation of fighters. Britain, West Germany, Italy

Government is at:last giving real support

and Spain are locked into the Eurofighter project. France is going ahead alone with the Rafale, though it is desperately keen for a partner with which to share development costs. The Netherlands, Norway

and Denmark have already committed themselves to at committee themselves to at least the "pre-development" phase in modernising the F-16, which they co-produced with General Dynamics for the air forces in the 1970s - only Bel-gium is hanging back. The Belgian aerospace indus-try has taken no formal past.

try has taken no formal posi-tion in the F-16/Rafale debate, Mr Gevers says, except to tell the Government it must take a speedy decision and involve local industry in R&D, not simply in co-production. "Belgian industry realises it

"Belgian industry realises it cannot continue acting simply as a 'compensatory' contractor for the Belgian Air Force," he says, referring to the way in which governments can, and do, demand a high proportion of compensatory or offset work for large military contracts placed abroad.

for large military contracts placed abroad. He admits the original F-16 contract provided a lot of work for the country's three big aeronautical companies - FN, Sonaca and Sabca (jointly owned by Dassault of France and Fokker of the Netherlands)

- and a score of others. But, speaking for FN alone, Mr Gevers evidently would prefer the Rafale, FN's return on the F-100 engine for the F-16

bas become less profitable, as the result of the US Air Force the result of the US AF Force demanding competition and two sources of supply for F-16 engines from both Fratt and Whitney and General Electric, and thereby requiring even FN in Liege to set up two produc-tion lines. More important, FN could

More important, FN could get in on the ground floor with Rafale engine development. while it would just continue as co-producer and subcontractor to the US engine makers. Gen-eral Dynamics claims that Bel-gium's cost of developing the updated F-16 would be \$50m, compared to \$500m for Rafale. That is undoubtedly a deter-

rent to the Belgian govern-ment, but to FN it means that it might get 10 times the development work if the Govern-ment opted for the French

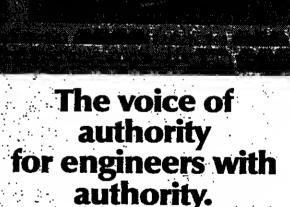
ment opten for the French solution. Co-development of the Rafale might lead to a more lasting relationship. Last year FN Moteurs becama a separate company, spun off from its loss-making parent in the hope of attracting outside minority stakeholders in the FN subsidiary. Other companies such as Sabca (half French-owned) seem to be inclined towards the Rafale.

With a socialist, Mr Guy Coeme, now as Defence Minis-ter in a Cabinet pledged to cut spending, the Government must think hard before opting

spending, the Government must think hard before opting for the more expensive of the fighters on offer. It will probably also want to put off as long as possible a decision on a new light attack and reconnaissance helicopter. On offer to Brussels are the B0-105 of Messenschmitt-Bol-kow-Blohm of West Germany, the Ecurcul from Aerospatiale of France, and the A-109 from Agusta of Italy.

Agusta of Italy. But for a jet trainer, there is a home-grown product — the Squalus - very much on offer to the Belgian Air Force from its Charleroi manufacturers and promoters, Sonaca and

Promevia. The latter claims there is a great deal of foreign interest in the Squalus, but that foreign-ers first want to see the trainer endorsed at home by the Belgian Air Force buying it.



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Aerospace



Spain's troubleshooter finds the going tough

## **Deeper losses jolt public sector favourite**

SPAIN'S AEROSPACE manufacturer Constructiones SPAIN'S Aeronauticas (Casa) has gone in a couple of years from being the darling of the public sector corporations, comfortably in the black, well connected and confident of its future, to being a problem for its owners, its employees and its international partners alike.

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After posting a Pta 1.6hm profit in 1985, making it the fifth most profitable company among the dozens controlled by public sector holding histi-tuto Nacional de Industria (INO), Casa went into a nose-

Losses of Pta 8.6bn in 1986 prompted drastic action by INI in the form of the removal last year of Casa's chairman Mr Enrique de Caralt and his replacement by one of the pub-lic sector's prestige troubleshooters, 41-year-old Mr Javier Alvarez Vara, However, the first year of

tenure by the new chairman has failed to even contain the damage. Although sales were up by Pta 3.5bn to Pta 48.9bn,

Casa recorded pre-tax losses of the duration of a non-year Pta 14.20m in 1987, the worst in bility plan. Productivity comes high on the company's rescue

Arts listony. This disastrons results have at least joited the company's proprietors, management and the labout force to take a long hard look at the prospects for viahilify On the plas side there has

been a remarkable coincidence in the diagnosis of Casa's ills and on the steps the company must take to return to health. A firm of international consultants hired last year to report Thus have have been and the second se

broad agreement. In the wake of the report, Mr Alvarez Vara said a key prob-lem is that Cana's works sys-tem had remained unchanged for some 20 years and that Pta 30bn-worth of investments were required to fully modernise the co

Earlier this year Casa's chairman received the green light from INI for investments worth Pta 34.7hn spread over

agenda According to Mr Alvarez

Vara, income should, be in excess of Pta Shn per each of the company's 10,000-odd employees instead of the Pta 5bn figure of the last financial vear.

The Union General de Trabajadores (UGT) trade union went even further than the management. It suggested that there should be a productivity target of Pta 10bn per employee. The union reported that "an absolute lack of motivation" on

the part of the labour force was reflected in absenteeism that was well over the 19 per cent vel in some of Casa's seven plants.

UGT revealed that virtually every one of Casa's interna-tional cooperation programmes, and especially those concerned with the Airbus project, was behind schedule and that production line delays had prompted McDonnell

the duration of a four-year via-bility plan. Productivity comes 2bn worth of business from the high on the company's rescue Spanish company in the past

The four-year viability plan which Mr Alvarez Vara

increase which

the company needs to be modernised

announced with the New Year included severe action aimed at boosting plant activity. A redistribution of work systems at the company's plants in Seville, in Cadiz and in Getafe. south-east of Madrid, seeks to reduce 700,000 subcontracted labour hours to 300,000. The financial ratios of the

four-year plan are ambitious. Mr Alvarez Vara seeks to reduce pre-tax losses to Pta 10.7bn this year and to Pta 3.9bn next year. The year 1990 has been earmarked as the point that Casa turns the corner with Pta 800m profits and the plan envisages a rise to a Pta 1.2bn profit in 1991.

round are a productivity will rais income from sales to Pia 90.7bn in 1990 and 1991, and a financial restructing that will raise

Factors promising the turn-

essary dependence on the highly-competitive international market, a market made all the more problematical by the strength of the peseta against the dollar, and by its specific

failure to penetrate the US market. Casa's actual products consist of the so-called "Jeep with Wings", the all-purpose Stol C-212 Aviocar which has a lot

of the romance of the old DC-3 and, arguably, an equivalent leap forward for Casa and for other Spanish companies amount of its obsolescence; the involved in the project. CN-235, an npdated Aviocar produced in a co-venture with part of the Eurofighter's wing the Indonesian company Nur-tanio and has the "Jeep's" and will be assembling all the aircraft for the Spanish Air Force. The EFA programme same design philosophy; and a has bold government backing and much the same can be said basic military trainer and ground-attack aircraft, the C-101, whose days are numfor institutional support for the European Space Agency, This

As stables go it is not one to gives Casa hopes of developing excite the betting markets as Casa knows only to well. its own avionics programme for the future Hermes and for Start-up costs for the CN-235 building the spacecraft itself.

have been punishing and the returns have yet to be seen. required minimum to support an aerospace industry and the domestic market is puny. Casa's tailspin into financial Casa hopes to sell some 15 military versions of the airtroubles was caused by its neccraft a year and a further seven for civil use. The chief

market is formed by the devel-

oping countries as was the case

with the the Aviocar's prede-

The alternative to the daunt-

ing prospects of creating and selling one's own products is to

join the international projects

and develop high tech and spe-cialised skills. In this context

the EFA programme is the big

Casa, in this case, is making

cessor.

lies behind the Casa's collaboration in the MD-11 project for the Spanish company will be providing the stabilisers. This is a technology developed by Casa in part because of its role in the Airbus project and in part thanks to the offset agreements which followed the purchase of F-18As by the Spanish Air Force

Sophisticated specialisation

XY

More of the same could come if and when Casa decides on an international partner to develop a new fighter dubbed the AX aimed at complementing the EFA and the F-18A and replacing the Spanish Air Force's flight-weary F-5's.

One possibility is a link with British Aerospace to developing Spanish versions of the Hawk jointly. The AX must also have an optional training capability

The contract is therefore a substantial one and by that time Casa should be back in the black and again a government favourite.

Tom Burns

ISRAEL Looking for a new identity

ITS WINGS clipped by last craft, has been balted; while, year's government decision to prospects for the four-year-old cancel the Lavi combat aircraft, state-owned Israel Air-craft Industries (IAI) is casting around for a new identity - as well as a convincing raison d'etre.

After a generation of steady progress up the rungs, from repairs and upgrades to design-ing and building its own military aircraft, Israel's aerospace industry without question has been brought back to earth

with a painful thump. Where the manufacture of complete aircraft once had pride of place, more than half IAI's annual turnover of about \$1bn now comes from its technologically advanced electron-ics division.

Maintenance and upgrading work adds another quarter. Include missiles and mini-RPVs, pilotless drones, and lit-tle is left over for the aircraft salesmen's share.

Indeed, apart from the com-puter doodlings of the company's engineers, not a single new manned aircraft is either in production or being serily contemplated at IAI's. ous Ben Gurion Airport headquarters. Production of the Arava, an ungainly Stol transport air-

Astra executive jet, only 12 of which have been sold after development costs of USD 200m, do not look good ... The Lavi was intended to. give the country strategic inde-

tion, has — unsurprisingly — ended up leaving Israel deeper

in the pocket of the US than

The bulk of the new work to

come Israel's way in recent.

months has come via the Pen-tagon. This includes the Arrow

project ~. the development of

an Anti-Tactical Ballistic Mis

sile designed to counter the Soviet SS-21 short-range mis-

sile - and a night-targetting

system for the two countries" Cohra helicopter gunships.

agreed to provide 85 per cent of the funds required for the Arrow ATBM - 80 per cent

In all, the Pentagon has

1.00

dom

the Lavi was the recognition of pendence from foreign suppli-

Israel by Washington late last Not a single manned aircraft is either in

production or being seriously contemplated

ers, but its abandonment on year as a "Nato-equivalent" cost grounds, under pressure from the Reagan Administraally. This permits Israeli com-panies to bid for Pentagon contracts on an equal footing to those from Western Europe, and could be of considerable

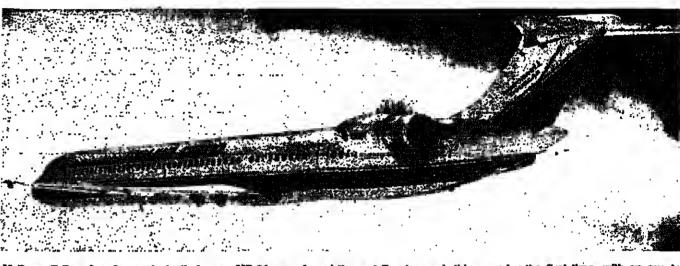
Ever, since France's arms embargo at the time of the 1967 Arab/Israeli War, the country's aircraft procurement policy has been directed exclusively to the US, a practice reinforce by the latest acquisitions and planned purchases of both the airforce and El Al, the civilian carrier. Seventy five of General Dynamics' latest production F-16 interceptors - the F-16C/ D - are corrently being deliv-ered in straight compensation for the Lavi, ingether with five

more top-of-the-line F-15s. directly and the balance from IAI would dearly love to Foreign Military Sales (FMS) aid - as well as two thirds of the money allotted to the enter into a co-production agreement with the US com-pany on the even newer "Agile Cobra upgrade. A juicy reward for the bitter-Falcon" variant of the F-16 as well, but has been temporarily blocked in its ambitions. ted decision to cancel

According to a specialist Israeli defence publication, Sword, the Israel Defence Forces also has its eye on the McDonnell Douglas F-18, and on new assault helicopters such as the Sikorsky Black Hawk or the McDonnell Doug-

las Apache AH-54. Mnch will depend, though, on priority uses for the \$8.60m in FMS grants promised Israel by the Reagan Administration for the current fiscal year and for 1988-89. Any hint of a future cutback in military aid for Israel by the incoming US aministration could put these

plans on ice. As for El Al, the national sirline has recently completed the first phase of a long-term, re-equipment programme pro-visionally budgeted at \$1.5bn. This year, it has taken delivery of three new Boeing 757s as replacements for old 707s being retired and another 747-200. All four purchases were self-flnanced.



McConnell Douglas demonstrate their new MD-91 prop fan alrtiner at Famborough this year for the first time, with an eye to winning the first orders from the airlines. The fuel-efficient engines offer e breakthrough in flying costs

tant route, and are envisaged However, in a significant departure from its established practice, for the first time in a quarter century El Al has gone back to Rolls-Royce engines, choosing the RB-211 power plant for the twin-engine 757s over its US rivals. For the second phase, intended for the early 1990s, El Al says it is considering acquiring an unspecified num-

ber of Boeing 747-400 and 767-SODER passenger aircraft. The latter will be capable of flying non-stop from New York to Tel Aviv. the airline's most imporfor low-season periods when the big 747s are not required. Amid the gloom and introspection at both IAI and Beit Shemesh Engines, Israel's near-bankrupt aero-engine manufacturer, the upgrading and retrofitting of aircraft and engines has become one of the best lines of business.

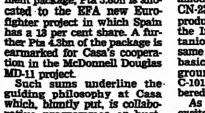
Drawing on its own long experience in improving other countries' warplanes, IAI is military relationship with Israel, recently sent its Mirage acting with renewed urgency to convince the Israeli Air Vs for upgrading, according to Force and foreign customers of Sword, in a deal worth \$30m. It

approach to modernisation. The F-4 Phantom, a workborse fighter/bomber still in service with many airforces around the world, has been revamped extensively and dubbed the Phantom 2000. The old Mirage III and V aircraft, and the A-4, have similarly been given a new lease of life. Colombia, which has a close

the cost benefits of this has also agreed to purchase 13 Kfirs, the Israeli-improved version of the Mirage III.

But, in the fiercely competi-tive world of military exports, the Israelis are finding that little quarter is given by anyone. A prospective contract with Spain to upgrade its large fleet of Mirage Vs was lost to France, while a planned sale of Kfirs to Honduras was snatched away by the US itself.

Andrew Whitley



Spain's

Out of the Pta 34.7bn invest-ment package, Pta 5.6bn is allo-cated to the EFA new Euro-

ther Pta 4.3bn of the package is earmarked for Casa's coopera-MD-11 project. Such sums underline the

rative programmes or bust. international commercial clout falls far short of the

All parties are in broad agreement that capital from the Pta 9bn 1967 figure to Pta 33.7bn in four years' time and reduce financial costs over the period from Pta 8.7hn to Pta 6.1hn.



"The Dash 8 sets bold new standards for regional airliner reliability, boosting passenger loyalty to new heights: Durability. True to the de Havilland tradition of robust aircraft, the Dash 8 easily handles the tough demands of a regional airline schedule. Its superior structural integrity delivers an

Moreover, since routine inspections are required less often, the Dash 8 doesn't have to be sidelined for maintenance every other day or so.

Maintainability. The Dash 8 is designed to make maintenance simple and fast. Components are easily accessible without fancy ground equipment. Most economic life of 160,000 cycles. fine-replaceable units can be

changed in fifteen minutes. Result: you can get the Dash 8 back in service quickly - and on schedule. Reliability. The Dash 8's dispatch reliability and schedule completion are in excess of 99%. You can count on the Dash 8 to leave on time. So can your passengers. Which is why operators and passengers return to the Dash 8 again and again. Which brings us to the bottom line:

Profitability. The Dash 8 is easy to maintain, cost-efficient to operate, and consistently meets performance targets. Operators and passengers know they can rely on the Dash 8. And that's the bottom line.

### **Reliability**

**Boeing Canada** de Havilland Division XVI

Canada's industry is reaching out and ...

## **Seeking new niches**

CANADA'S AEROSPACE into aerospace industry has emerged much stronger from the recession and two privatisations of the early 1980s and is reaching out into international markets and trying to find new niches.

As Mr K E Lewis, President of the Aerospace Industries Association of Canada, puts it: We must find ways to co-operate more in major development projects with other nations; yet we must also ensure we can compete against the fast-growing number of players in world

aerospace." Canadian aerospace will generate sales of ebout C\$5.5bn this year, and about 80 per cent of production is exported. The industry employs about 60,000 and about 80 per cent of the activity is concentrated in Que-bec and Ontario and the rest is spread out in the Maritimes, the Prairie Provinces and British Columbia.

Aerospece accounts for about 20 per cent of the manufacturing sector's research, mainly through Pratt & Whit-ney Canada, the country's sole engine-builder, and several large companies, such as Spar Aerospace, Canadian Marconi and CAE Industries, in special-ist areas, such as communcations, avionics and space-han-dling equipment. Yet, the industry knows it must invest more in research to maintain

its international position. Despite a modest 25m population and the small domestic market, the industry ranks fifth in the West. But it may soon be displaced by Japan, now putting major resources

The Canadian industry designs, develops and makes an enormously wide range of products from business jets, helicopters and commuter air-craft to small jet and turbofan engines, from sophisticated electronic components to communications satellite systems, complex defence products, remote manipulation systems, and military, commercial and industrial simulators.

Yet, Canadian aerospace is gaining new confidence as an international participant, though it accepts it must remain primarily a nicbe

player. Several recent events support this view, such as the C\$665m acquisition of the US Singer Company's Link domes-tic simulation and training systems division.

The two largest Canadian airlines, Air Canada and Canadian International, are committing several billion dollars to firm orders and options for the Airbus A-320, and this is expected to lead to a C\$1bn order for Canadair Ltd to supply A-330 and A-340 airframe parts over a 15-year period. Canadair has the mainte-

nance contract for Canada's CF18 fighters, and improving international markets for the Challenger business jet and for its battlefield surveillance sys-tem being developed with West Germany and France. related.

Besides Boeing, McDonnell It is planning a 48-seater commuter version of the Chal-Douglas is the largest US airlenger to meet the needs of frame builder operating in Canada. The Toronto plant is busy building MD-80 wings, long and thin regional feeder

away the largest customer of Canedian aerospece, despite strong efforts to diversify mar-kets. Products move freely over the border, but US non-tariff barriers are still worri-Boeing, now owner of de Havilland Canada, has over-hauled the operation com-pletely and has won strong Mr Lewis remains bullish

about the future, and sees industry volume reacbing international support for the C\$7bn or more in 1990 or 1991. He says the industry must do more research to build on its reputation for quality and delivery. A 7 per cent of sales ratio is far below other devel-Dash-8 turboprop commuter aircraft and plans a new 70-passenger version. The Bell Textron Helicopter (Canada) plant in Montreal, which started up amid furious

which started up and through political controversy two years ago, is quietly making two series of commercial light heli-copters, while continuing lon-The industry must hook directly into international based programmes, including the hypersonic flight of the ger-term development on an advanced Canadian-engined series. A smaller plant in Ontario, MBB Aerospace Canfuture, in order to keep np with the technological race. But he says Canada is not

turning ont enough qualified engineers and technicians and lacks a national training stratada, began with e good Government order base. The Bell plant may benefit directly from the choice of the Anglo-Canadian EH-101 heavy helicopter to replace the Coast egy because of jurisdictional problems between Ottawa and the provinces, which constitu-Guard Sea Kings. The order may be increased substantially tionally control education. Companies still lack forward planning for the most part, he to more than 50 aircraft and could lead to some interna-

says. The heated political debate Canada bas also benefited from the transfer of defence over the location of Canada's Space Agency does little to solve longer-term structural technology from the US, and scores of smaller avionics, problems. The Agency may well land up in Montreal. component and other speci-

The Japanese preoccupation with an ultra-sonic aircraft able to fly between New York allised contractors supply the US military under Canada-US defence sharing agreements. But this business may soon level off with American defence cutbacks. Generally and Tokyo in three to five hours, creating teams to research advanced engines and about one-third of Canada's fusilage materials, is a sign of things to come. Canada needs to be part of aerospace activity is defence-

such ambitions, says Mr Lewis. "We must co-operate and we must compete."

representing about 20 per cent of the cost of each aircraft. PRIVATISATION is the dominant issue in Argentina's civil airline industry. The Radi-The US remains far and cal Party government faces considerable problems with massive state spending and servicing a \$56kn foreign debt. One of the ways it is trying to tackle those difficulties is by selling off state-owned indus-tries including part of the

national flag-carrier, Aerolineas Argentinas. In February this year the Ministry of Public Works announced that it had begun discussions with the Scandinavian airline, SAS, to sell 40 per cent of Aerolineas Argentinas to SAS. So far no firm details

have been announced about the sale, and inside Argentina there are contradictory reports on the progress of the discussions. Even if the deal is formally

concluded by the Argentine government and SAS, it still has to be approved by Con-gress, Argentina's parliament. There is considerable political and industrial opposition to it, and it looks most uncertain to ever happen.

Argentina's other major civil airline, Austral, was sold to private ownership in December 1987 and, according to its latest audited accounts, is beginning to achieve reasonable profits, despite the loss of a DC-9 in a crash in Misiones province in June this year.

carrier. The Argentine group Cielos

del Sur took ownership of Aus-tral last December, paying \$28m for the company. The Government assumed all of Austral's outstanding debts as part of the deal. During the first quarter of 1988 Austral achieved an audited operating profit of \$3.4m, with a

break-even passenger load fac-tor of 46.2 per cent, which it Robert Gibbens

ARGENTINA Sell-offs for cash

claims to be one of the lowest in the industry. In 1987 it carried a total of

1,436m passengers, with an average aircraft load factor of 57.2. Austral employs 1,380 staff: 190 pilots, 300 flight per-sonnel, 360 technical mainte-nance staff, and the remainder. in administrative jobs.

Presently limited to domestic routes, Austral serves 26 cities and has market participation of 25 per cent. Its fleet consists of eight BAC 1-11s (500 series) and three DC-9 80/81. The BAC craft are directly

owned by the company while the DC-9s are leased from McDonnell Douglas and will become the property of Austral in 1993. Austral is keen to expand its operations to cover routes outside Argentina, and it wishes to see keener compe-tition in the domestic market.

Acrolineas Argentinas is in a less fortunate financial posi-tion, being saddled with a \$L07bn debt, and dependent on government subsidies. Believed to be top heavy in administra-tive personnel, Aerolineas is protected by the Argentine state, which is concerned to preserve it as a national flag-

However, the Argentine gov- almost all Argentine cities, and

ernment has been keen to fin-alise a part sale to SAS, with Aeroliness valued at \$475m at the beginning of August this year. Discussions on the deal have been protracted but under the terms of the sale SAS is to take 40 per cent, the Argentine government will keep 51 per cent and the other

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FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

seep of per cent and the other 9 per cent will be offered to the atrine's employees. A rival offer has been made by Cielos del Sur, which has brought together Alitalia and Swissair in the bid. It is known that Cielos del Sur regards the \$60m down payment SAS is expected to make as surprisingly low, and disputes the total valuation of the airline. total valuation of the arrine. However, Mr Rodolfo Ter-ragno, Minister of Public Works, who has responsibility for the privatisation pro-gramme, has firmly main-tained that the deal will go ahead with SAS and not Cielos dol S

del Sr. The Aerolineas fleet consists

of six Boeing 747-200s; one 747-SP; two Boeing 707s; eight Boeing 727s; 12 Boeing 737s and 4 Fokker F28s. The company runs a staff of 10,325 and in 1987 carried just over 4m pasngers on domestic routes to

29 international routes, with an average passenger load fac-tor of 65.45.

tor of 65.45. The interest being shown by SAS in buying into Aerolineas is undoubtedly because of the access this would give to Latin American routes, not forget-ting that, at the price, Aerolineas seems to be a bargain.

On the military front, Argen-On the minus y as Argentina tina's Fama (Fabrica Argentina Aerospacial) in de Materiales Acrospacial) in Cordoba, is optimistic that it may soon sell the IA-88 Pampa jet trainer to the US Air Force. The Pampa has been under development since 1979, and it is thought that the US may be in the market for up to 600 aircraft. If such an order were to be made it could be worth

\$2.5bm to Argentina. In July this year Argentina conducted a successful test flight of the country's first remote piloted aircraft, the Bigua. A version of the Balianmade Mirach 100 RPV (which is sea and land-launched), the Bigua is launched from a larger aircraft, giving it a dis-tance advantage. A range of additions cater to the different needs of potential purchasers.

**Gary Meed** 

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BRAZIL **Limits of finance** 

Treasury is close to insolvency.

Financial engineering is now

at a premium at Embraer. The

Government's economic diffi-

culties have made it difficult for Embraer to raise long-term

loans. "We can't develop the CBA 123 on short-term funds,"

Mr Silva, says. Embraer has \$180m ; in

than its \$150m net worth. Budes is likely to capitalise its

\$138m loans outstanding to

Embraer. The company expects to attract a further \$50m in

debt to equity conversions

from four foreign banks.

hort-term loans - much more

EMBRAER, Brazil'a fast-growing aircraft manuf turer, has reached the limits of its financial endurance. It must deal urgently with its ugly debt profile to keep to its development timetable

In the 19 years since its foundation, Embraer has grown to . dominate two niche markets, claiming superiority in the commuter aircraft and turboprop trainer sectors.

It has begun work on a new commuter aircraft and it aims to become a big supplier of parts and aerostructures to the main US and European jetliner manufacturers. But its AMX subsonic ground attack aircraft

has got off to a difficult start. Although it expects sales this year to grow by one-quar-ter to \$600m, Embraer needs to straighten out its debt problems and reinforce its capital base. Mr Ozilio Silva, its chief executive, says he hopes to the up a \$183m capitalisation pack-

age by the end of the year. Embraer has already begun veloping new, expensive, aircraft. It is designing the CBAcraft, and later plans to intro-

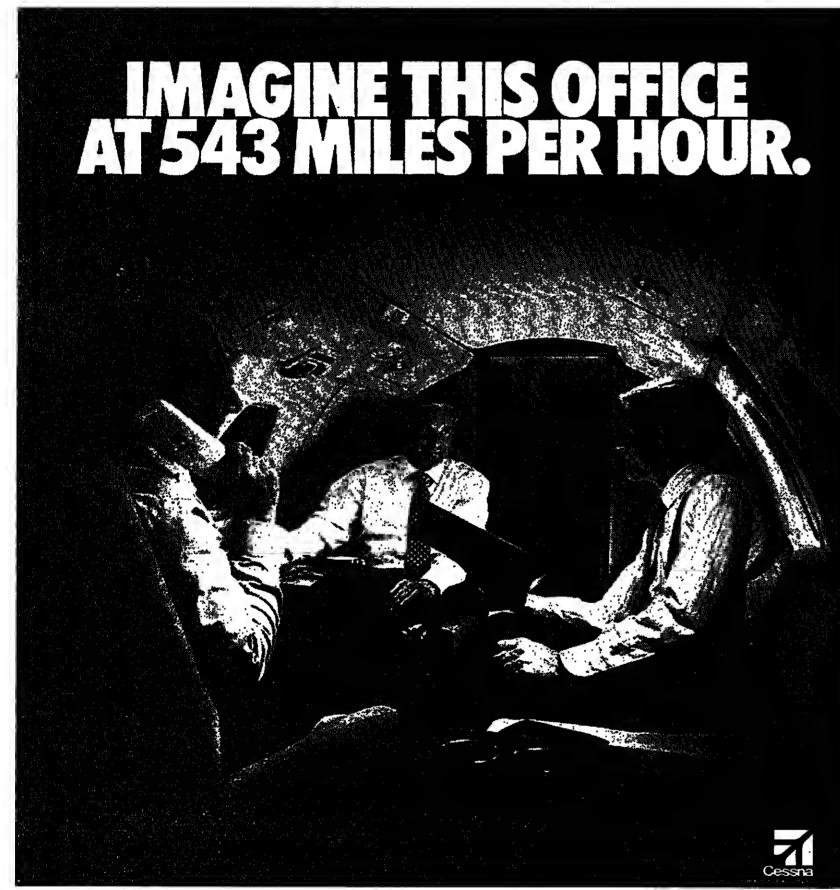


is still weak and the countries The company has already had to slow down deliveries of the regional airlines in poor health. As the domestic market 80 AMXs earmarked for the Air

shrinks' in importance, Embraer is devoting more and more attention to its overseas business. Exports now account for 70 per cent of total sales, compared with 44 per cent of

all sales five years ago. Argentina's Fama has a 30. per cent stake in the CBA 123 project. Aermacchi and Aeritalia have 70 per cent of the AMX project. The AMX has been attacked for running over cost and straining Embraer's finances, but the company rejects the criticism.

Mr Silva says he hopes to build Embraer's subco



tional specialisation.



If you're considering moving to a jet that can increase both your levels of competitiveness and comfort, consider this:

No other business jet in its class can beat Citation III for comfort, efficiency, or speed at normal cruising altitudes.

The Citation III cruises at up to 543 miles per hour. This kind of performance can reduce a 730 mile trip to less than 90 minutes. No other business jet in its class is more efficient.

It climbs directly to 43,000 feet in just 21 minutes, at a typical operating weight. It's certified to 51,000 feet well above commercial airlines and most adverse weather. No other business jet in the world flies higher.

And companies whose growth has already outstripped the confines of their current business aircraft will find Citation III also responds to a need for comfort, with a spacious, stand-up cabin. It has the largest external baggage compartment of any midsize jet, so luggage need not be moved across the laps of passengers already seated.

Quite simply, no other midsize jet offers as much overall comfort for eight or more passengers.

Nor does any jet in its class offer more assurance of reliability. Citation III has the strongest warranty in the business. And a global network of service centers and authorized service facilities delivers on Citation's outstanding reputation for customer support

Small wonder the Citation III has become the jet of choice for companies that are going places fast.

For more information, contact Cessna Aircraft Company, Citation Marketing Division, Executive Jet Centre, Heathrow Airport South, Hounslow, Middlesex TW6 3AE England or call (01) 759-2814.

#### **CESSNA CITATION III**

Visit the Cessna Aircraft Company display at the Farnborough Air Show, Chalet 44, Line B.

duce an extended version of its handsome 30-seater Brasilia and an anti-tank version of its

Tucano turbo-prop trainer. Mr Silva says that by 1991: "Embraer will be in an extremely strong position, at the cost of substantial invest-ments." He plans to cover the entire range of regional air-craft models, offering 19 to 40-seat aircraft.

Embraer must commit about \$500m to develop the CBA-128 and the 40-seat extended ver-sion of the Brasilia.

Embraer has other projects up its sleeve, such as a super-sonic fighter trainer. It has presented designs to the Brazil-ian Air Force, which has put such a venture on hold for lack of money.

The project is unlikely to go ahead until the Air Force's finances improve.

The Government is Embraer's biggest shareholder and the Air Force its most important single cnstomer. That is as much a liability as an asset, since the federal

ing business into its third main At the same time. Embraer has become an innocent victim activity. of the United States' trade Embraer has begun shipping wing flaps to McDonnell Doug-las as part of a \$120m contract to supply the MD-11 wide body wars with Brazil. Last Novemairliner. And it has held talks with Spar, the Canadian satel-lite builder, which built Bra-zil's two domestic communica-tions satellites. Embraer would supply Spar with external

wars with brazil. Last Novem-ber, Washington said it was considering imposing punitive duties on Embraer sales to the US, its largest market. Although the US has said since said that it is lifting the threat, it has not officially noti-fied Embraer. However, Mr Silva believes that the com-Silva believes that the com-pany will be spared the new round of trade disputes between the two countries.

These disputes have caused another big financial headache for Embraer. It has had to pro-vide its US customers with letters of credit, at a cost of \$2.8m in annual interest

The letters of credit would be used to affset retro-active US duties. Embraer has orders and options for 209 Brasilia air-craft from American operators. Foreign trade and international co-operation is becoming increasingly important for Embraer. Its domestic market

structures. It has also been in touch with Boeing, which might buy - aerostructures from Brazil. Bell, the US helicopter manu-facturer, discussed a coopera-tion deal with Embraer, but the talks petered out after Bell lost a bid to sell 52 helicopters to the Brazilian Army. A con-sortium of Aerospatiale and Emessa, a Brazilian armgured Engesa, a Brazilian armoured vehicles manufacturer, won

structure

the \$245m contract. Embraer will probably sup-ply the French Air Force with 70 Tucano trainers for \$140m as part of the offset deal.

John Barham



#### **AEROSPACE 17**

INDIA

AS INDIA'S two main national carriers - Air-India for inter-national flighter and hadron Air national flights and Indian Airlines mainly for domestic routes - prepare themselves for a major expansion of their

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Coplance

fleets with aircraft purchased and leased from the US, France and the Soviet Union, the gov-ernment-owned Hindustan Aeronautics (HAL) is pressing ahead with a major programme to huild more Western and

craft and components worth RS 6.52bn in 1987-88, and thus showed a profit before tax of RS 450m.

The company's principal activities involve the design, manufacture, repair and over-haul various kinds of sprcraft and helicepters and related aero engines, avionics equipment, instruments and other parts.

arts. Its main production efforts are concentrated on the mann-, facture of fighters, and in the past few years it has been mov-ing into new generation aircraft, shifting notably from making the now obselete MiG-

Hindustan still concentrates on fighters building the "swing-wing" test flight in the mid-1990s. MiG-27M (named the Bahadur Progress on the AHL is i or Valiant by the Indian Air ter. The design work is i Force), and the first of these ished, tooling is continui began service with the IAF last Soviet aircraft itself under January. Plans in the next licence. decade include manufacture of Hindustan Aeronautics' the MiG-29 and even the main customer is the Indian MiG-31 once the Soviet Union Air Force, to which it sold air- is ready to transfer the kno-

whow. Agreements in principle have been reached by the two governments on the indigenous

production programme. Other major projects of the company are manufacture of the inturistic "light combat air-craft" (LCA) and the "advanced light helicopter" (AHL), based on its own designs (although some West-ern assistance is involved in both ventures, ficluding Mes-serschmitt-Bolkow-Blohm of

West Germany on the AHL) at its complex in Bangalore. Progress is alow despite the

Progress on the AHL is fas-ter. The design work is fin-

ished, tooling is continuing and last year the fabrication process began. The 4,000 kg belicopter has a pair of French engines but eventually Indiandesigned engines will take their place.

HAL also makes the Domier Do-228 twin-engined light transport aircraft with West German collaboration. So far, 110 aircraft are on order for the for Vayudoot, India's well as for Vayudoot, India's fastex-panding local-service feeder airline that operates regional

TOULES. The Dornier is now finding acceptance among passengers despite some initial hesitation because of minor accidents. Other HAL operations include local building of the Anglo-French (Sepecat - British

fact that General Electric F-404 engines are to be used initially for the LCA until HAL's own gas-turbine engine. (coded GTX-S5) is mady. The LCA is 21-bis with Soviet collaboration. for the LCA until HAL's own to the later MiG series. gas-turbine engine. (coded in 1984, its factory at Nasik, GTX-35) is ready. The LCA is Maharashtra State, switched to now expected to make its first

Also going ahead is the pro-gramme to introduce the Advanced Turbo-Prop (ATP) aircraft, developed by British Aerospace by improving the original Avro HS-748. A Memorandum of Under-

standing and a business agreement were signed between HAL and British Aerospace last year to increase the scope of work sharing between the two companies on the ATP. As a result, HAL has received an initial order for the supply of 12 tailplane sets for the aircraft

to British Aerospace. Among HAL's recent achievements have been delivery of Jaguar trainer aircraft (Darin version) with a "nav attack system" and Jaguar strike aircraft with Agave radars to the Indian Air Force. Servicing of AN-S2 Soviet transport aircraft aircraft has been assigned to the company, Aerospace-Dassault) Jaguar International jet strike-trainer while a motor glider has been designed and test flown at

factured under licence. Its engine now comprises about 40 per cent Indian components. HAL's plant at Kanpur. As part of its modest export efforts, HAL has signed a contract with Malaysia for the

export of Chetak helicopter spares worth RS 35m. The Che-tak is developed froms the French-designed Aerospatiale Alouette III helicopter.

HAL, has also negotiated con-tracts for the repair and over-haul of three Alcuette III helicopters and supply of two

Chetak helicopters worth RS 50m to Ghana. Developments in civil aviation relate mainly to the expansion plans of Air-India and Indian Airlines, both of which have fleets far short of requirements since demand for seats on all the routes they fly

is growing fast. Indian Airlines, which has one of the largest domestic networks among the airline mem-bers of the International Air Transport Association (lata), will soon add the Airbus A-320 150-seat airliner to its existing fleet of 11 Airbus A-300s, 27 Boeing 737s, six HS-748s and two Fokkers. It has ordered 19 A-320s, with delivery starting next year, and due for comple-tion by 1990.

After 1991, delivery of 12

more A-320s will start and Air-bus Industrie has already been given a letter of intent for

Air-India plans to spend RS to buy their tickets in hard currency, it has been able to finance its aircraft purchase 15bn to restore its "Maharaja" symbol to its former glory by adding to its existing fleet two plans without government help new Boeing 747 "comhis" (cargo/passenger) aircraft and two more A-310 Airbuses later or borrowings from abroad. has not performed as well financially and, after a number

this year. Its existing fleet consists of 10 Boeing 747s, three A-300-B4 Airbuses and six A-310-300 Airbuses. In addition, it has leased an Ilyshin IL-76 from Russia for its Delhi-Moscow route. Both airlines are under

heavy political pressure to buy Soviet aircraft, which have been offered to the Indian government cheaply and on soft loans taken in the past at a time when there was no credit terms as well as payment in rupees.

For the present, both prefer to buy aircraft from their traditional Western suppliers such as Boeing and Airbus Industrie, but the pressure to buy Soviet products could become overwhelming. Indian Airlines made an esti-

Indian fuel because of the introduction of a number of non-stop flights originating in India.

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Since more such flights are planned, the losses are expected to increase, but Air-India is pressing the Government for parity on fuel costs and is optimistic that it will gain relief before the end of the year.

The Government is conscious of the fact that both carriers have a poor image among the travelling public for vari-ous reasons

Both have now had their boards overhauled and their part-time chairmen are distinguished industrialists from the private sector. In addition, the directors now include various representatives of private companies in an effort to improve the airlines' management. So far, this has not had

much effect. A committee appointed to look into the workings of Air-India and Indian Airlines has recently recommended partial privatisa-tion, that would include the sale of equity to the public. This controversial proposal

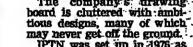
is still being considered and its acceptance could be delayed because of the current uncertain political situation.

K.K.Sharma

## Collaboration is the keynote

**INDONESIA** 

DESPITE A less than Construcciones Aeronauticas But domestic sales for the spectacular sales record and a (Casa) - Spain's state-con-rotary wing aircraft have been considerable debt burden, Nur-, trolled sirframe maker. sluggish, particularly since the DESPITE A less than spectacular sales record and a tanio (IPTN), Indonesia's state aerospace industry, continues to attract foreign partners. The company's drawing



IPTN was set up in 1976 as the vanguard of Indonesia's. industrialisation, programme, brainchild of Dr. Josef Habibie, a trained engineer and former director of the German aircraft manufacturers Messcherschmitt-Blockow-Blohm (MBB). The company now has estab-

lished relations with Casa of Spain, MBB, Aerospatiale of France, Fokker, Boeing and most recently General Dynam-. ics on a range of collaborative projects from airframe manufacture to offset and simple

maintenance agreements. Some ventures have been

Although there have been few foreign sales to date, this

44-seater, easily converted into a military transport aircraft, is: seen as a possible competitor

seen as a possible competitor to the Italian ATR-42, as a short-hop commuter plane. Case and IPTN are setting up a joint marketing arm in the US, though the Indone-sian-made 235 has still to win an airworthiness certificate from the American FAA in the from the American FAA. In the short term, IPTN will continue to sell to the domestic market. where local carriers and the military are now obliged to buy the company's products.

IPTN's helicopter programme has been more trou-bled. The company part-manu-factures under licence both the Puma and Super Puma of Aerospatiale, the NB-412 with Bell of the US and the BO-105,

visibly more successful than the MBB twin engined helicop-other, Pride of the fleet is the: ter. multi-purpose fixed wing CN-235, jointly manufactured with an export licence for the 105, catching on in the civilian air-

downturn in Indonesia's oil industry. Aerospatiale is now converting its Puma for naval

converging its runa for havan use on aircraft carriers. In the military field Indon-esia's defence procurement is now increasingly linked to off-set deals with IPTN. General Dynamics of the US has won on order for Di of the R 16 and

an order for 12 of its F-16 jet fighters, with about 30 per cent of the \$337m contract cost covered by offset agreements. British Aerospace and

Rolls-Royce are currently dis-cussing possible collaboration on the new Hawk 200, a sub-sonic combat fighter. Dassault, the French aerospace company, has offered jointly to manufacture the Super Eten. dard, the fighter used by the Argentine Air Force in the Faiklands War. Offset deals will-result in the

IPTN this year signed an agreement with Boeing to sup-ply about \$800,000 worth of parts for its 757 aircraft, Boe-ing's answer to the Airbus. Fokker, the Dutch aircraft manufacturer, has also agreed

a component supply contract worth between \$15m and \$20m. Garnda, the state airline, today has the biggest fleet of Fokker F-27 and F-28 aircraft in the world. But by granting small offset agreements, both Fokker and Boeing are clearly positioning themselves for the much larger sales contracts as Garuda phases out its domestic DC-9 fleet and enters the market for perhaps as many as 200

new aircraft mercial airliner, the 100-seat Atra-90, an unducted prop fan aircraft which was originally scheduled to be in service by 1992

Boeing, MBB and Fokker. were involved in developing the concept, but Boeing has

since dropped out. Given Indonesia's lower oil revenues. there is now some doubt whether the project will ever be realised.

Cash constraints may prove the undoing of many of IPTN's more ambitious schemes. Lowinterest financing together with conntertrade arrange-ments are likely to be required from any foreign aerospace company wishing to do busi-ness with IPTN. Dassault reportedly offered

100 per cent countertrade in its failed bid to persuade the Indonesians to buy its Mirage 2000 instead of the American F-16. On the engine side, Rolls-Royce already has some measure of collaboration experience, with its Dart engine supplied to Garuda. Before the

arrival of the F-16 an earlier generation of British Hawks successfully provided Indon-esia with its main frontline fighter.

John Murray Brown

27

mated profit before tax of RS 750m in 1987-88. Because of an increasing number of tourist

Air-India, on the other hand,

of profitable years, is estimated to have made a loss of about

RS 400m in 1987-88 despite the

tourist boom that India is

experiencing. In 1987 a record 1.2m foreign tourists visited

attributes the loss to deprecia-tion and interest charges on

increase in its carrying capac-

cost of aviation fuel bought in

Another reason is the high

The international carrier

the country.

itv.

engers, who are required

Flight deck of the new Boeing 747-400 series. The new Jumbo has a completely revamped tlightdeck layout using cathode ray displays. The simplified arrangement has 600 fewer dials, gauges and switches than present models and the crew has been reduced from three to two



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India. This costs 107 cents a elderemmon of bereamon college international rates of 58 to 60 cents. The airline has had to use



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> **BAe Harrier BAe** Concorde **BAe** Jetstream BAe 125 and 146 BAe Hawk and Hawk 200 BAe EAP Fokker F.28 Aeritalia G.222 Aeritalia G.91Y Fokker 50 JUROM Eagle McDonnell Douglas T-45A Goshawk Pilatus PC-9 SEPECAT Jaguar Shorts 330/360 Shorts Tucano Westland Sea King .

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XVIII

**AEROSPACE 18** 

China's aim is to extend co-operation with other countries

## **Preparing for significant expansion**

CHINA HAS now embarked on a major reorganisation of its commercial aviation infrastructure that will also involve a significant expansion of its aerospace industry. The Seventh Five-year plan

covering the period 1986-90 has especially singled out improve-ments to air transport as a national priority, while also recognising that to develop the aerospace industry is a rapid method of gaining advanced technology and thus facilitat-ing the country's entry into the mainstream of world economic development.

The Ministry of Aviation Industry has outlined the objectives as being to develop while also developing new regional airliners, general avia-tion aircraft and helicopters. Using its own existing capabilities as a base, the aim is extend co-operation with other countries and thus progres-sively modernise the aviation manufacturing and air trans-

port industries. Forecasts are that the overall volume of air travel in China will rise to between 30m and 35m passengers a year by the year 2000, some three times greater than at present.

For a country of more than 1bn people, this indicates that en by then China will still have a long way to go before it nears the volume of air travel already achieved elsewhere in the Western world. One feature of this growth is Administration of China, for

that China is now encouraging tourism, and it has been estimated that by 1990 it will be welcoming some 5m tourists annually, a figure that may well rise to 10m a year by the turn of the century, generating US\$8-10bu annually in reve-

China is building hotels – close to 1,000 international-standard hotels are now avail-able throughout the country, with a total capacity of 147,500 rooms, and about 100 more under construction, or another 30,000 rooms

30,000 rooms. China is also building airports, with at least five to be huilt at Yianyang in Shaanxi Province, Xining in Qinhai Province, Ningbo and Wenzhou in Zhelang Province and Taox-ian in Liaoning Province, with others planned for the 1990s. Such growth is already expected to result in a dou-bling of the requirement for aircraft, from the present 400, mostly small and ageing types built under licence to Soviet designs, to about 800, including many Western-built aircraft.

many Western-built aircraft. Already, a major restructur-ing of Chinese civil aviation is

ally) is evident that China is in progress. The Civil Aviation still trying to establish pre-

Northern.

cisely which new types of air-liner are best suited to its long-term needs. This explains Administration of China, for long the sole entity governing air transport, and responsible also for airports and air traffic control besides being also the country's flag carrier, is being reorganised into six operators. CAAC Beijing hecomes China International Airways, taking over long have acretice tong-term needs. This explains why over recent years it has been buying in small numbers a wide variety of foreign-built jet airliners, spending more than \$1.5bn on Boeing 747s, 767s and 757s, Airbus A.310s, McDonnell Douglas MD-82s, British Aerospace 146s, Soviet Tupolev Tu-154s and Short 360s. taking over long-haul services, while CAAC Shanghai becomes China Eastern Airlines. The CAAC Guangzhou Regional Administration becomes China Southern Airlines, the Xian Administration becomes China

3605. Each type is being carefully studied in operational service, and from this experience the Chinese airlines will determine precisely what they need and order when they are ready. In developing its own inter-nal commercial aviation infra-structure. China will seek not Administration becomes China Southwest and the Shenyang Administration becomes China

nal commercial aviation infra-structure, China will seek not only to meet its immediately emerging needs, but also to enhance its own aerospace skills, initially through the manufacture of Western airlin-ers undar licence, and the man-ufacture of parts for Western aerospace companies, leading to joint development of major new airliner ventures. The current aircraft fleet is being divided between the air-lines, but purchasing of air-craft will remain in the hands of the State-run China Aviaof the State-run China Avia-tion Supplies Corporation. At the same time, although these airlines will have a degree of autonomy, top man-agement is being nominated by the CAAC, while fares-fixing and route selection will still also be in the hands of the State. But there will be a few "independent" airlines, operat-ing on a small scale (fewer than 200,000 passengers annu-ally).

are already being made under sub-contract in China, as are parts for the Boeing 747 and 737, and the Franco-Italian Avions de Transport Regional Avions de Transport Regional ATR-42. Both Boeing and McDonnell Douglas are train-

ing Chinese aviation engineers in Seattle and Long Beach, Cal-ifornia.

The McDonnell Douglas MD-82 twin-engined short-to-medium range jet airliner, for use in China, is already being assembled in a specially-built factory in Shanghai by the Shanghai Aviation Industrial Corporation (which built the Y-10, the first Chinese jet air-

At the same time, China is looking to export to the West some of its own indigenous air-craft, such as the 17-passenger Harbin Y-12 light short take-off

and landing transport. This collaboration is essen-tial, and Western manufacturtial, and Western manufactur-ers who ignore it are likely to find no long-term outlets for their own products in China. Currently, China wishes to build a major new 150-plus sea-ter "trunk route airliner" in collaboration with Western countries. The three major builders, Airbus, Boeing and McDonnell Douglas, have all submitted proposals, as have

suhmitted proposals, as have the "Big Three" engine build-ers, General Electric, Pratt & Whitney and Rolls-Royce. The Airbus proposal is based on the A-320, the Boeing plan on the 737 and 757 which are already in service in China, while McDonnell Douglas is concentrating on its MD-92

prop-fan project. The time-scale for such a venture is not clear, but it would be unlikely to enter service much before the mid-1990s, even if a formal go-ahead were given next year.

But preliminary indications are that the project is regarded as serious at the top level in Beijing, with eventually upwards of 150 aircraft needed. At the same time, China is becoming increasingly interested in developing regional aircraft, of 100 seats and below, to meet its massive demands for smaller sircraft to serve its scattered population centres.

Greek cycling chempion One project is for Messer-chmitt-Bolkow-Blohm of West Canellos Canellopoulos.who had a watery ending to his Str. 55 minute journey. Wind Germany and the China National Aero-Technology Import and Export Corporation (Catic) to develop, through a joint company, a 75-seat twin snapped the tail as he was trying to land on a beach and the Deedakus craft fell into the engine commercial transport, the MPC-75, which could well be a prop-fan type venture. The 112# wing-span eircraft was built by students and

**Michael Donne** engineers at Messachusetts

#### A SECOND TRY **BY DAEDALUS** PROBABLY the most unusua

elrcraft at the Famborough Air Show will be Daedalus (above), which flew 74 miles

record for human-powered

le craft, waighing only

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FINANCIAL TIMES THURSDAY SEPTEMBER 1 1988

reate the flight of the Greek mythological figures Det and his son Icanis after their escape from Crete.

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The letter, despite his father's wornings;flow so close to the sun that the wax on his wings mailed.olunging him into the sea.

The modern-day project was onsored by United Technol toods Shaklee.

The previous distance record for human-powared aircraft was set in 1979, when Bryan Allen piloted Paul Mac-Cready's Gossamer Albatross 22 miles across the English Che innel.



#### THE VERSATILE CHALLENGER 601-3A.

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comfortable business jet. But it can also confirm the thirdgeneration Challenger's surprising performance credentials. Aerodynamic design and militaryproven General Electric turbofan engines give Challenger the highest thrust-weight ratio in big business jets, a top speed of Mach .83 or 548 mph, plus 16 climb-rate records. Performance like this, and comfort for up to 19 passengers is all achieved with such quiet dignity that Challenger flies unrestricted by curfews at noisesensitive airports.

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Since 1944, Canadair has been designing, engineering and producing both military and commercial aviation products.

**Designated** a key industry JAPAN'S aerospace industry is relatively small; but its leaders

JAPAN

have big ambitions. And it has been designated by Miti, the Ministry of International Trade Ministry of international Trate and Industry, as a key industry of the future. This would seem to be enough to conclude that the industry is likely to become a. formidable world competitor. short but the terrain is moun-

tainous and it is difficult to build long runways. Indeed, the country's only formidable world competitor. However, Japan'e aerospace industry has two significant handicaps. First, most of its output is for military use, but Japan's military budget is lim-ited and the country has fores-worn arms exports. Second, since the revalua-tion of the yen, the costs of development and production of ecivil aircraft in Japan have state has been in this sector. the turboprop. YS.11, developed in the early 1960s and still widely used internally. In 1977, a new Stôl development proj-ect, the Asuka, was begun. It will be completed this year, and the industry is urging the Government to go on to authorise. production of a. 75-set Stol plane, now referred for as the YS-X. independent development to

as the YS-X. as the YS-X. Unfortunately, their proposal runs into several practical problems. For one thing, there are already a number of mod-ern Stol aircraft available in the world, including the Brit-ish Aerospace BAe 146, which would fill Japanese needs satis-factorily. Any move by Japan to develop a competitor at this stage would rouse considerable resentment among other makresentment among other mak-ers, who have been trying hard to sell in Japan.

an independent development at this point is for a short take-off and landing (Stol) aircraft.-strongly needed in Japan where distances between popu-lation centres are relatively

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become so high that the coun-try's aerospace companies would have difficulty in justify-

would have difficulty in justify-ing undertaking any projects on their own. Japan's space effort is less troubled. It is financed almost entirely by the Government, is aimed at scientific and tele-communications developments, and will soon be technologi-cally self-sufficient. More than 80 per cent of the

cally self-sufficient. More than 80 per cent of the Y633.2hm output (1967 figures) of Japan's aircraft industry goes to oue customer, the country'e Self Defence Force. It is spending Y542.5hm (£2.4bn) this year on aircraft and mis-siles, most of it with Japanese contractors. Most of the work is split

Most of the work is split among the finree top aerospace contractors, Mitsubishi Heavy Industries (MHI), Kawasaki Heavy Industries (KHI) and Fuji Heavy Industries (FHI). MHI is by far the largest of the three, and has had the big-gest angle contract, the supply of F-15 fighters for the Air Defence Force. KHI builds heli-coptars, T-4 trainers and the P-3C anti-submarine patrol air-craft, while Fuji supplies heli-coptars, T-4 trainers and the P-3C anti-submarine patrol air-craft, while Fuji supplies heli-coptars and training aircraft. MHI also dominates on the missile side, with Toshiba and Mitsubishi Electric also mak-ing certain models. The F-15 programme is com-ing to an end, and is to be replaced by a new fighter, called the FXX, a joint Y165bn development with the US of the F-16 made by General Dynamics. Agreement on the FSX proj-ect was reached last September after much controversy. The Japanese eide wanted to develop its own next-genera-tion aincraft, partly to prove and improve its own capabil-ity, but the US insisted on joint development, not least for trade reasons. On the civil side, Japanese aircraft makers have been try-ing for years to catch up with Western competitors, but have been restricted so far to a strat-egy of cooperation with foreign makers. Thus, MHI, KHI and Fuji all make components for the Boeing 787 jetliner and are planning to be involved in the Boeing 787 jetliner. MHI and KHI considered an approach from Airbus Indus-tie last year to become compo-nent makers for the A380 and A440 models but after consid-ently because of their close inks with Boeing MHI, KHI and Ishikawajima-Harima Heavy Industries (IHI) partici-pate in the International Aero Kngines consortium that makes the V-2500 jet engine. The industry's main hope for

Japan's space effort will soon be self-sufficient

Second, the potential market in Japan is only about 150 airwhat industry analysis say would be necessary to make the project break even given Japan's high costs of produc-

However, a mishap with a YS-11 underlined its age and YS-11 underlined its age and industry leaders are now try-ing to attract foreign partners for the project, especially in nearby Asian countries. On the space side, Japan's capabilities came to wider pub-lic strention last year when it an apapeas exacers and

two Japanese spacecraft, Saki-gake and Suisei, approached and observed Halley's Comet. Scientific exploration is still a major element in the coun-

try's space programme and the Institute of Space and Astron-autical Science (Isas) is eager to carry out more studies of comets.

to carry out more studies of comets. The other main element is communication and weather satellife and rocket develop-ment. The National Space Development Agency (Nasda) already has considerable expe-rience in isomching satellites and is on schedule to launch its first totally internally-devel-oped rocket, the H-2, in 1982. The rocket will be able to carry a two-tome payload and so lift Japan into the exclusive club of countries capable of launching their own - and others' - geostationary com-munications satellites. Nasda also has just con-cluded an agreement to pro-vide supace-processing module for the US manued space sta-tion project in 1996, and has ideas on the drawing board for space alicraft and space facto-ries.

However, all require consid-erable funding and the comtry's space budget is still rela-tively small. At ¥121.9bn in 1987, it was less than a tenth of the US effort,

ian Rodger

## CHALLENGER WIDEBODY LEADERSHIP

#### **AEROSPACE 19**

Australia is to remove detailed restrictions

## **Government limitations** coming to an end

AUSTRALIANS who fly lead peculiar lives. The airline which files them out of the country cannot fly them within it. And the two which fly them within it take off and land their sircraft at near-identical

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times across the country. That is not all. Domestic sir fares are high; schedules are highly vulnerable to industrial action; and in-flight service is so institutionalised you are given a meal on the briefest. flights.

But times are changing. Thanks to a decision announced in October last year, 35 years of detailed gov-ernment regulation of Austra-lian aviation are coming to an end

In particular, the current "two airline" policy is being replaced from 1990. This policy has limited entry to the aviation industry through controls on the importing of aircraft. It has also restricted competition in services and faces on major

routes. Giving details of the changes, Senator Gareth Evans, Minister for Transport and Communications, said con-

the arrangements currently regulating the industry, would be removed.

Similarly, the two domestic carriers - Ansett, owned by Sir Peter Abeles' TNT group, and Mr Rupert Mardoch's

Constraints on new operators will also go

News Corporation, and the state-owned Australian Alr-lines — will no longer be sub-ject to detailed controls on pas-senger capacity or air fares.

The existing contraints on the entry of new damestic opera-tors will also go. Changes on the international side are less sweeping. Qantas, the state-owned international airline, is to remain Australia's sole designated international carrier. And neither Qantas nor any other international air-

trols over alreraft imports, has been allowed to resume which had provided the carrying passengers of other "threshold underplaning" to international airlines on

routes.

company and the Government has relaxed its detailed control, giving the airline more flexibil-ity to operate on commercial criteria. More controversially, the Government would like to see

line will be allowed to carry domestic passengers or freight on regular services. On the other hand, Qantas

SOUTH AFRICA

Looking for exports

The airlins needs some A\$250m in fresh capital over the next three years. Along with other privatisation pro-posals, however, this has run into strong resistance from domestic sectors of its international services. Until this resto-ration of its "interlining" rights, it had some 18,000

the airline's weak capital base

Labor party activists. Anstralian Airlines never-theless has gone abead with its empty seats a week on these The implications of all these plans to compete against the changes for the airlines and powerful Ansett. In July it the Government have not taken long to sink in. In the case of Australian Airlines, Senator Evans said an essenannomiced an order for nine Boeing 737-400 aircraft plus another five options, to be delivered in the period 1990-92. The move followed a deci-sion to defer an order for nine Airbus A-320s. Australian feit tial element of the deregulated environment would be a "strong, viable, efficient Aus-tralian Airlines, able to provide effective competition across the trunk route network." Airbus A-3208. Anstraham feit it should not incur the higher costs of introducing a com-pletely new type of aircraft when there were so many uncertainties over deregula-tion, the airline's capital fund-ing and its ownership. The Air-The sirline has since been converted into a state-owned

bus order will now be reviewed. by mid-1992. Australian will undoubtedly be up against a formidable competitor in Ansett. Within weeks of confirmation last year

that the Labor government would terminate the two-airstrengthened through full or partial privatisation rather than through an injection from line policy, Ansett bought Rast-West Airlines, a small car-rier which had tried unsuccessthe state's own limited coffers. fully to become a low-fare third force taking on the two giants. Then last October Ansett announced plans to buy 16 Boeing 737-300s, five 737-500s and six 757-200s, with options on an unspecified number of additional aircraft. Some of the aircraft are earmarked for Ansett's New Zealand and international leasing operations, but they are also intended to secure domination

For Qantas, as with Anstra-lian Airlines, the Inture remains clouded with uncer-

under its latest five-year plan. tainty because of questions Qantas could of course bor-row on the capital markets to meet its needs, but it would be over its ownership and capital needs. Last April a proposal surfaced to merge Gantas and Australian with their stateunhappy about swelling its owned counterpart in New Zea-land, but the plan was dropped debt-equity ratio beyond its current high level of 80 per cent: 20 per cent. Most of the airline's projafter talks between the two

Qantas is now bidding for a ected spending is to go on new aircraft. It recently added two more Boeing 747-400s to the four-aircraft order announced last year, and one more 767-300 to make five due for delivery. The airline is already operating some 767s. As for the Australian privati-

sation debate itself, this is in limbo. The Labor Party, at its injection. The airline wants A\$600m, about ope-tenth of the biennial conference in June. put off a decision by forming a amount it expects to spend review committee. The Liberal

Party opposition is committed to privatisation, and Qantas and Australian Airlines are at the top of the agenda. But no election is scheduled before 1990.

en Airbus A-320 airliner has entered regular service this summer. Here, the Airbus industrie test

Meanwhile, the Government has other aviation issues to grapple with. For example, it is involved in numerous unresolved wrangles with foreign governments over international air rights, the most awk-ward of them with the US. However, this one has now been resolved. Last month, Australia and the US reached

agreement after two and a half years of negotiations, in a deal which gives each country extra access to each other's cities. In other significant moves to reform the aviation industry.

the Government in January established a new state-owned **Federal Airports Corporation** to assume responsibility for the country's major civil airports and terminals. One result is the start of long-awaited improvements at the country's most important and least impressive international gate-way - Sydney's Kingsford Smith Airport.

The Government has also set up a new Civil Aviation Authority to provide airways services on a commercial basis. This will levy charges for its services instead of depending on budget revenues from excise and customs duties on aviation turbine fuel and

departure taxes. **Chris Sherweli** 



siles and radar defences. At the same time the industry has had to aquire the technological skills to produce key components, like composite blades for helicopter rotors and jet engine turbines and the capacity to re-build and repair

damaged aircraft. Since the arms embargo was imposed in 1977 Armscor, the alks, The and result bears a State-controlled Armaments Corporation, and a closely Kir fighter, but industry meshed complex of private con-tractors, has transformed South Africa from a heavy speculation that tractors, has transformed" South Africa from a heavy

acrospace company in the and speed from the upgraded world which builds fixed-wing engine and greatly improved aircraft, helicopters, engines, avionics, the latest Cheetabs SOUTH AFRICA'S aerospace industry has faced a daunting challenge over the last decade sircraft, helicopters, engines, spare parts and carries out - to update existing aircraft and develop relevant technomaintenance under the same TOOT.

> the early 1960s, into modern-aircraft capable of matching the MiG-23. The South African Air Force has given the name Cheetah to the improved air-

opted for developing

This has meant major modi-

are also equipped with the recently introduced South African-designed and built VSC Its main project at present is Darter missiles. The V3 missiles are infra-red the conversion of the delta-winged Mirage 3 fighters, the first of which were delivered in homing: dog-fight missiles developed by Kentron, Arms-cor's missiles and avionics sub-

what makes them special is that they are fired by pilots using South African-designed and built helmet-sights. Not being able to make or buy new aircraft, the industry has pro-duced a pilot and machine The industry has

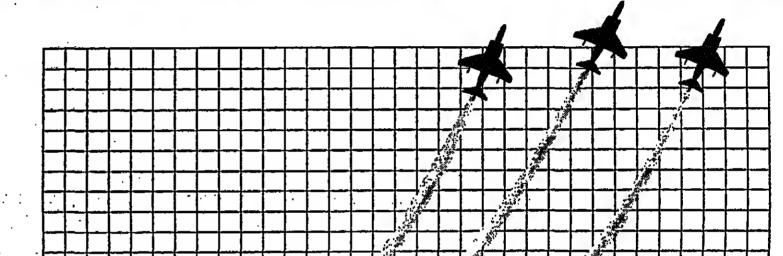
combination which it believes can match the MiGs. existing skills and "You don't have to turn like techniques

a MiG if you have an all aspect capability missile like the Darter and a pilot with helmet sights. The pilot can swing his head instead," industry observers say.

Unlike much of South Airica's other battle-tried parative virtue of the new Chectah has yet to be proved in actual combat, as thus far there is little evidence of direct

stake in Air New Zealand, which the Wellington govern-ment wants to privatise. British Airways is also interested and if it succeeds that might hurt Qantas's competitivenes Success for Qantas, on the other hand, would emphasise the capital problem. Like Ausof Australia's deregulated tralian, it needs a fresh equity

governments.





aircraft is followed in formation by aircraft in the liveries of the first three users - Air France, Air Inter and British Airways

XIX

ωя. military equipment. The bulk of exports so far

has consisted mainly of battle-tested armoured vehicles and small aims and the long range G-5 and mobile G-6 artillery, all designed for gruelling third world bush and off-road condi-

In future however the acro-space side of the defence industry also sees considerable potential in catering to the needs of financially hard-pressed third world air forces opting for modernisation of existing fleets as an alternative to buying expensive new gen-eration aircraft.

Thanks to the arms embargo and the pressing need to make the maximum use of skills and know-how, Armscor's Atlas Aircraft Corporation, with its sprawling factories close to Johannesburg's Jan Smuts Air-port, is believed to be the only

too expensive. "If the Israelis could not develop a new fighter with \$3bn worth of US military aid

oject abandoned by h

and access to US technology, we would be crazy to try our-selves," one source declared.

taken over the Lavi fighter

Instead the South African industry has opted for the "building block approach." developing existing skills, refining existing techniques and taking upgrading to the

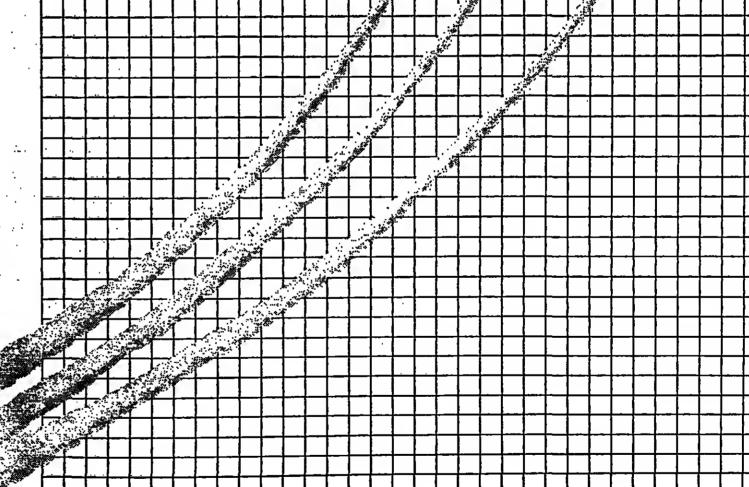
limit. Military intelligence sources in the Namihan "operational zone" insist that they have not host air superiority to Cuban photed MiG-22s. This was the impression left by the bombing of a dam at Calueque in Southern Angola by 12 Cuban MiG-22s in June when 11 South Adviest soldiers wars killed limit African soldiers were killed and no South African aircraft Apart from greater power.

ment Alouetic has been developed into the totally South African-made Atlas Alpha XH-1 heli-copter gunship, while the larger Puma is about to be sim-ilarly transformed into the

#### Anthony Robinson

confrontation between MiGs and Cheetahs in the Angolan Apart from the Cheetah pro-gramme, which when comnleted is expected to be fol-lowed by similar upgrading of the more modern Mirage F-1 fighters, the industry has also substantially upgraded its heli-copters, making its own gear boxes, rotors and other equip-The Freuch-supplied

Atlas Beta XTP-1. The first experimental Puma has been turned into a test bed for new. weapons systems.





The growing world strength of Plessey in aerospace is the result of a three-pronged strategy.

Growth through pursuing significant contracts in Europe and the USA, such as those it has won recently in electronic warfare, fuel pumping systems and the Strategic Defence Initiative and is bidding for in the European Fighter Aircraft.

Growth internationally through acquisitions, like that of Leigh Instruments and the Electronic Systems Division of Singer.

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And through expanding its stake in the Italian electronic warfare specialist, Elettronica. With such moves, Plessey is widening its technological base and strengthening its presence in North America and Europe.

Growth through research and development, enabling it to provide integrated avionics packages and work towards the ultimate fusion of aerospace electronics and engineering.

Plessey is meeting the needs of military and civil aircraft worldwide.

Its solutions cover identification, navi-

gation, communications, flight data, electronic warfare, armament control, fuel pumping, actuation, electrical generation, power control and aircraft components and assemblies.

Plessey in aerospace is firmly on the growth path to success.



Although the new European Fighter Altoralt (EFA) is now going shead, the European multi-role Tornado combat aircraft will remain in quantity production for many years to come



The armed forces are still the biggest individual buyers and activity remains high among the main manufacturers

## **US keeps share of depressed helicopter market**

THE OVERALL world market for helicopters has heen depressed for some time. Mili-tary budgets have heen reduced and although there are some small bright patches, such as demand for the smaller, lighter and cheaper helicopters for business users in the UK, overall commercial procurement remains low. This is especially so in the offshore oil and gas industries. where the peak exploration period generated by the oil crises of the 1970s, which created a boom for helicopters, has

 $\mathbf{X}\mathbf{X}$ 

now given way to logistical support requiring fewer aircraft The post-war pattern of heli-copter deliveries shows that, from virtually none in 1945, deliveries (both civil and mili-

tary) rose to a peak of close to 4,000 annually in the late 1960s/ early-70s period, falling back subsequently to only a few hundred in 1986.

In that situation, the US share of the world market has remained high, ranging from a peak of close to 100 per cent at the end of the 1939-45 World War, falling to about 75 per cent at the end-1960s as other manufacturers staked their claims for a share of the markets, and then sliding steadily as the world market fell away, to about 50 per cent today.

The armed forces worldwide remain the higgest individual huyers of helicopters of all kinds, and of those in turn the US armed forces remain the higgest individual purchasers in the non-communist world.

But even in the US, constraints on military hudgets have led to cuts in both procurement orders and development funds for new ventures.

The lack of civil interest, especially outside the US, stems from such factors as the comparatively high initial purchase costs of rotary-winged aircraft, and their high maintenance costs, coupled with the continued hostility to such air-craft hy many residential communities and environmental groups because of their noise. Apart from companies offer-

ing air-taxi services, and some individual husiness users, the civil helicopter operators are mainly government or other statutory authority users, such as police, coastguard and search-and-rescue organisa-tions, or other authorities, and all primarily military. They search-and-rescue organisa-

World Market for Helicopters 1989-1998

	Weight Class					
	Light		inter-	Medium	Houvy	
	(#)	(b)	mediate			
<b>US Military</b>		_	180	1,620	270	2,0
_			\$1.3	\$12.1	\$5.7	\$1
Non-US	980	1,210	1,610	2,050	115	5,9
Military	\$0.0	\$1.9	\$7.5	\$16.2	\$1.6	S2
World Čivil	1,460	1,410	1,160	225		4,4
	\$0.9	\$2.1	\$4.1	\$1.5		\$
Total	2.440	2,620	2,950	3,895	385	12,2
	2,440 \$1.5	\$4.0	\$12.9	\$29.8	\$7.3	\$5

industrial organisations. Companies in offshore oil replace the Sea King for anti-submarine warfare, among other duties, with a civil ver-sion also planned; the Francoand gas exploration and devel-opment are still significant buyers despite their reduced irements Nevertheless, activity

remains high among the main helicopter manufacturers: tank helicopter programme; the NH-90 NATO helicopter for the 1990s; and a light attack helicopter, the Tonal, based on the Italian Agusta A-129. Aerospatiale of France, Agusta of Italy, Messerschmitt-Bol-kow-Blohm (MBB) of West Ger-All four are international ventures, reflecting the need to spread the heavy development costs and maximise markets. many and Westland of the UK, together with the US compa-nies, Boeing Helicopters, Bell Helicopter Textron, McDonnell The EH-101 is a joint venture between Westland and Agusta, Douglas Helicopters and Sikor-sky in the US, supported by a with initial planned orders for more than 150 aircraft for the smaller US manufacturers such as Enstrom, Hiller, Robin-son and Schweizer.

Forecasts by Sikorsky Air-craft, the world's biggest heli-copter manufacturer, indicate that over the next decade to 1998, Western world belicopter sales will amount to 12,290 aircraft worth \$55.5bn (in 1988 dollars), rather lower than a year ago and reflecting a less opti-mistic projection of US mili-

tary needs. The US military nevertheless The aim is to produce up to about 400 aircraft for the two will remain the most signifi-cant customer, taking some 2,070 aircraft, representing 17 countries, with three versions envisaged - escort and fire support, and separate anti-tank per cent of the projected marversions for both the French ket in unit sales, worth \$19.1bn or 36 per cent of the dollar value. Other military sales and West German armies. The NH-90 programme is a four-nation venture hetwe worldwide will account for some 5,965 machines, worth France, West Germany, Italy and the Netherlands. Two verabout \$27.8bn.

slons are envisaged ~ NFH-90, a shipborne (primarily frigates) helicopter for anti-submarine The civil market is expected to show little growth, account-ing for some 4.255 aircraft worth abont \$8.60n, with both the offshore oil and corporate transport markets remaining warfare, surface attack and search and rescue duties, and TTH-90 for land-based tactical transport.

depressed. The major programmes in Although the UK originally participated in the NH-90, it withdrew in April 1987 on the basis that the EH-101 would

meet its requirements. Cur-rently, the first flight of the NH-90 is set for late 1991, with

NH-90 is set for late 1991, with first deliveries in 1995. The Tonal light attack heli-copter is a four-nation venture between the UK, Italy, the Netherlands and Spain. The four armies are studying sub-missions from the Joint European Helicopter team involved, and a common design may be agreed hy this September. In the US, the original Army LHX programme for a single

include the Anglo-Italian EH-

101 multi-role aircraft to

West German common anti-

Royal Navy. Italian Navy, the

RAF and the Canadian Navy.

Eventual requirements for the

EH-101 are expected to exceed

The anti-tank helicopter pro-

gramme is heing undertaken

by Eurocopter, a joint company

set up hy Aerospatiale of France and Messerschmitt-Bol-kow-Blohm of West Germany.

800 aircraft.

type of lightweight armed reconnaissance helicopter to replace a variety of types in current service, although now considerably scaled down, remains a massive programme. It involves the eventual pro-curement of well over 2,000 air-

chrement of well over 2,000 an-craft, worth some \$37bn. Two major US industrial teams - Bell Helicopter Tex-tron/McDonnell Douglas and Sikorsky/Boeing - are devel-oping competitive designs in response to a "request for pro-posals" from the US Army. Selection of the team for the

Selection of the team for the final contract is expected in late 1990, with a maiden flight in 1993, and first deliveries in March 1996.

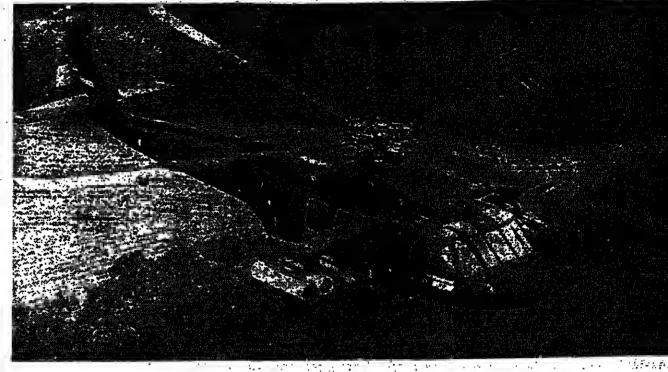
International collaboration is also being encouraged on the engine for the LHX, for which two teams are also competing the Light Helicopter Turbin Engine Company (LHTEC) comprising the Garrett and Allison Division of General Motors, and Textron Lycom-ing/Pratt & Whitney. A major new helicopter pro-

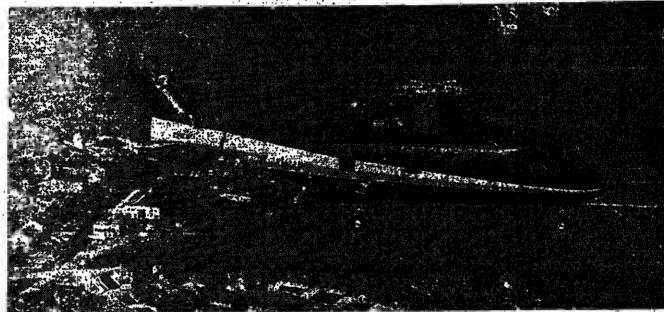
gramme now under way at McDonnell Douglas Helicopters is the design and development a revolutionary design of called a "Notar" - a "No Tail Rotor Helicopter."

In this design, called the MD-520N, the customary high-speed rotating fan on the tail boom of conventional heli-copters is replaced hy a stream of air from the aircraft's engine. This makes the aircraft easier to fly, while increasing safety and reducing the pilot's workload.

The prototype is due to fly in mid-1989, with certification for customer use in late 1989. The Notar system will also be incorporated on the company's eight-passenger MDX helicop-ter, now in the preliminary de ien stage

**Michael Donne** 





Top: The Westiand version of the US Sikorsky Black Hawk which the UK company is now offering to UK and other cas Above: The Anglo-Italian (Westland-Agusta) EH-101 multi-role helicopter, now in production, with both military and civil versions planned. Governments and other statutory authorities are major users of helicoptars while companies in offshore oil and gas exploration and development are still significant buyers despite their reduced requirements. The US military will remain the most planned. Gover significant single customer in the West even though cuts in military budgets have led to tewer orders

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